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A further drop in the dollar is likely as the American economy slows: leader

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Politics this week

Nov 30th 2006
From The Economist print edition

AP

George Bush flew to Jordan's capital, Amman, to hold talks with **Iraq's** beleaguered prime minister, Nuri al-Maliki. Mr Bush described the meeting, aimed at stemming Iraq's burgeoning civil war, as productive, and gave assurances that America was not trying to find a "graceful exit". Such talk in Washington, he said, "just simply has no realism to it". See article

A surprise truce between **Israel** and **Palestinian** militants in the Gaza Strip held good, despite the firing of rockets by a Palestinian group that rejected the deal. Israel's prime minister, Ehud Olmert, said he was ready for talks with a moderate Palestinian government, for a prisoner exchange and for territorial compromise on the West Bank. See article

A looming prospect of war between **Ethiopia** and **Somalia** was reduced, for the moment, by floods in the region. Somalia's Islamists continued to gain ground against the country's internationally recognised but feeble transitional government, which is backed by Ethiopia. See article

The Supreme Court in **Congo** ratified the results of the country's presidential election, in which the incumbent, Joseph Kabila, handily beat his chief rival, Jean-Pierre Bemba, in a run-off. Mr Bemba accepted his defeat, so reducing the chances of civil strife.

Nigeria's vice-president, Atiku Abubakar, put an end to months of speculation by saying he would run for president next year, despite opposition from Olusegun Obasanjo, the current president. The high court in Lagos ruled that two reports alleging corruption and fraud against Mr Abubakar had no legal foundation.

An ally for Turkey

On a four-day visit to Turkey, **the pope** told the Turkish prime minister that he supported Turkish aspirations to join the European Union. The pope also met the Orthodox patriarch in Istanbul and called for greater tolerance of Christians in Turkey. See article

After **Turkey** refused to meet a European Union deadline of next week for opening up its ports to trade with (Greek) Cyprus, the European Commission proposed the suspension of eight of the 35 chapters of membership negotiations. See article

AFP

Police in London began retracing the events that led to the apparent radiation poisoning of Alexander Litvinenko, a former **Russian agent**. Before he died, Mr Litvinenko accused Russia's president, Vladimir Putin, of orchestrating his demise, something the Kremlin vigorously denied. See article

Silvio Berlusconi was taken to hospital after he collapsed while speaking at a conference, reviving speculation about how much longer the 70-year-old former prime minister of **Italy** can lead its centre-right opposition.

As expected, Nicolas Sarkozy declared his candidacy for the **French presidential election**. The interior minister has long been favourite for the centre-right nomination.

A draft European Parliament report found new evidence that several European governments knew of the **CIA** programme of "extraordinary renditions" of terrorism suspects, and of secret prisons the CIA ran in

central Europe.

Sharper teeth

At the **NATO** summit in Riga some countries were persuaded to relax restrictions on their troops' exposure to fighting in **Afghanistan**. Some agreed to ease curbs preventing their soldiers in the country moving to the south, scene of the fiercest fighting. Meanwhile, the summit asked Bosnia, Serbia and Montenegro to begin partnership-for-peace negotiations with NATO. See article

A report on alleged sanctions-busting in Iraq by the AWB (formerly the **Australian Wheat Board**) found it had paid $221m in kickbacks to Saddam Hussein's regime. But it cleared ministers and civil servants of complicity. See article

The International Committee of the Red Cross revealed that the government of **Myanmar** had ordered it to close its five field offices in the country. This, it said, had the effect of making its humanitarian work in Myanmar impossible. See article

India's coal minister, Shibu Soren, and four others were found guilty of murdering Mr Soren's secretary in 1994. Prosecutors said the victim had been blackmailing Mr Soren about alleged corruption.

Environmentally aware

America's Supreme Court listened to arguments in what is seen as the most important case it has yet heard on **climate change**. A group of 12 states wants the federal government to regulate carbon-dioxide emissions from vehicles. It is reluctant, saying the effects on global warming are not fully understood. See article

New York's mayor, Michael Bloomberg, said the death of an unarmed black man in a hail of police bullets outside a nightclub was “unacceptable”. Mr Bloomberg has been praised, so far, for his sensitive handling of the incident, a stark contrast to the criticism heaped on Rudy Giuliani after police shot an unarmed African immigrant in 1999.

After considering a bid for the White House, **Bill Frist**, who is retiring as the Republican leader in the Senate, said he would not run in 2008.

Tilting right

Felipe Calderón, **Mexico's** new president, completed his cabinet, naming Francisco Ramírez Acuña, a right-wing former governor of Jalisco, as his interior minister. His appointment dismayed human-rights groups. Many of the other ministers are modernising technocrats, some with links to the formerly ruling Institutional Revolutionary Party.

Rafael Correa, a Christian left-winger, won **Ecuador's** presidential election by a 14-point margin over Álvaro Noboa, a banana-exporting billionaire. Mr Correa rattled financial markets with talk of debt restructuring despite his country's oil windfall. See article

AFP

Canada's Parliament overwhelmingly gave its approval to a motion proposed by Stephen Harper, the Conservative prime minister, to recognise French-speaking Quebec as “a nation within a united Canada”. See article

In a victory for **Bolivia's** socialist president, Evo Morales, the country's Senate approved a land-reform law despite an earlier walkout by the conservative opposition aimed at preventing a quorum.

Cuba's president, Fidel Castro, said that he had not recovered sufficiently from stomach surgery to take part in delayed celebrations to mark his 80th birthday.

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Business this week

Nov 30th 2006
From The Economist print edition

The weakness of **the dollar** came under the spotlight as it continued to slide, reaching a 20-month low against the euro and falling against other leading currencies. In an effort to soothe markets, Ben Bernanke, the chairman of America's Federal Reserve, tried to dampen speculation that interest rates would be cut next year in order to boost economic growth, which would put more pressure on the greenback. The currency fell further after he spoke. See article

The slack dollar was one factor that led stockmarkets to shed some of their recent gains. On November 27th the **Dow Jones Industrial Average** and the **NASDAQ** witnessed their sharpest declines since the summer, falling by 1.3% and 2.2% respectively. Asian markets also caught the jitters and the next day Hong Kong's **Hang Seng** index fell by its largest amount since September 11th 2001.

Ford said it was seeking to raise $18 billion in loans. Because of the carmaker's poor credit-rating it will, for the first time in its history, put up its factories and other assets as collateral. The company, which is restructuring, has lost around $7 billion so far this year as its share of the American market continues to erode.

Mass consumerism

Bharti, an Indian conglomerate, confirmed it would work with **Wal-Mart** in a joint venture to open hundreds of Wal-Mart franchised stores in India, starting next year. It is the biggest push yet by a foreign shopkeeper into India's booming retailing sector, which remains largely closed to foreign investment.

Iberdrola, a Spanish energy company, offered to buy **Scottish Power** for £11.6 billion ($22.5 billion). The friendly deal is the latest effort among big European utilities to consolidate ahead of next year's deregulation of energy markets. However, some deals remain mired in political wrangling. This week the European Commission criticised Spain, again, for the conditions it has attached to a bid for **Endesa**, the country's biggest utility, from Germany's **E.ON.** Spain wants Endesa to merge with Gas Natural, the country's biggest gas supplier. See article

Ryanair raised its stake in **Aer Lingus**, its Irish compatriot, to more than 25%. Ryanair, Europe's biggest low-cost carrier, launched a hostile takeover for Aer Lingus in October, soon after Aer Lingus made its stockmarket debut, but has failed to win the support of big shareholders. A rival bid is improbable, given that the Irish government insists it will not sell its 25.4% stake in Aer Lingus to anyone.

Chugging along

The management of **Eurotunnel**, the operator of the tunnel that links Britain and France, breathed a sigh of relief as the company's core creditors voted (by a slim margin) in favour of a restructuring plan. Some of the debt-holders, including several hedge funds, abstained from the vote. They, and smaller bondholders, remain unhappy with the blueprint, which restructures Eurotunnel's £6.2 billion ($12 billion) debt, because it undervalues their investments.

EMI's share price surged as the music company confirmed it had been approached about a possible takeover, reportedly by two private-equity firms. Merger talks between EMI and Warner Music proved fruitless earlier this year.

The retrial of **Josef Ackermann** and five others on criminal charges stemming from the awarding of

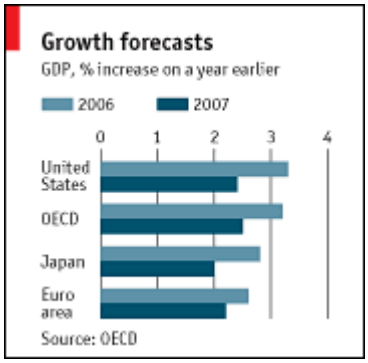
executive bonuses at Mannesmann in 2000 ended when the judge accepted a settlement from the prosecution. The deal requires Mr Ackermann, who is now chief executive of Deutsche Bank, to pay *euro*3.2 million ($4.2 million) but without admitting to wrongdoing. See article

Sales of existing homes in America increased by 0.5% in October compared with the previous month, the first time sales have risen since February, according to the National Association of Realtors. But the median price for a home remained $221,000, a drop of 3.5% compared with a year ago. It may be a buyer's market for some time to come: the inventory of unsold homes was also up sharply.

The European Union's trade commissioner, Peter Mandelson, proposed a meeting of the world's trade ministers before the end of the year in an attempt to revive the **Doha round** of talks. American officials backed away from the idea and said they preferred the “quiet conversations” going on in a series of smaller, informal meetings.

Cutting back

The OECD issued its latest **economic outlook**. The forum for 30 industrialised countries said a “rebalancing” in the world's economy will see growth in Europe and Asia compensate for a slowdown in America. The OECD cut its estimate for GDP growth in the United States to 2.4% in 2007 from the 3.1% it forecast six months ago.



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Currencies and economies

The falling dollar

Nov 30th 2006
From The Economist print edition

A further drop is likely as the American economy slows

Get article background

THE dollar's tumble this week was attended by predictable shrieks from the markets; but as it fell to a 20-month low of $1.32 against the euro, the only real surprise was that it had not slipped sooner. Indeed, there are good reasons to expect its slide to continue, dragging it below the record low of $1.36 against the euro that it hit in December 2004.

The recent decline was triggered by nasty news about the American economy. New figures this week suggested that the housing market's troubles are having a wider impact on the economy (see article). Consumer confidence and durable-goods orders both fell more sharply than expected. In contrast, German business confidence has risen to a 15-year high. There are also mounting concerns that central banks in China and elsewhere, which have been piling up dollars assiduously for years, may start selling.

Ben Bernanke, chairman of America's Federal Reserve, sounded unperturbed this week, suggesting that the economy will enjoy a soft landing (which would argue that interest-rate cuts are not imminent). This notion has underpinned the belief that the dollar will hold up because foreign investors will remain eager to buy dollar assets and so finance the country's vast current-account deficit. But if the economy slows more sharply than expected, their enthusiasm for the greenback will shrink. And if house prices continue to fall, the risk of a recession will grow.

Yet cyclical factors only partly explain why the dollar has been strong. At bottom, its attractiveness is based more on structural factors—or, more accurately, on an illusion about structural differences between the American and European economies.

The weak strongman

The main reason for the dollar's strength has been the widespread belief that the American economy vastly outperformed the world's other rich-country economies in recent years. But the figures do not support the hype. Sure, America's GDP growth has been faster than Europe's, but that is mostly because its population has grown more quickly too. Dig deeper, and the difference shrinks. Official figures of productivity growth, which should in theory be an important factor driving currency movements, exaggerate America's lead. If the two are measured on a comparable basis, productivity growth over the past decade has been almost the same in the euro area as it has in America. Even more important, the latest figures suggest that, whereas productivity growth is now slowing in America, it is accelerating in the euro zone.

So, contrary to popular perceptions, America's economy has not significantly outperformed Europe's in recent years. And to achieve this not-much-better-than parity, America has had to pump itself full of steroids. Since 2000 its structural budget deficit (after adjusting for the impact of the economic cycle) has widened sharply, while American households' saving rate has plunged, causing the current-account deficit to swell. Over the same period, the euro-area economies saw no fiscal stimulus and household saving barely budged.

America's growth, thus, has been driven by consumer spending. That spending, supported by dwindling saving and increased borrowing, is clearly unsustainable; and the consequent economic and financial imbalances must inevitably unwind. As that happens, the country could face a prolonged period of slower growth.

As for Europe, the old continent is hobbled by inflexible product and labour markets. But that, paradoxically, is an advantage: it means the place has a lot of scope for improvement. Some European countries are beginning to contemplate (and, to a limited extent, undertake) economic reforms. If they push ahead, their growth could actually speed up over the coming years. Once investors spot this, they are likely to conclude that the euro is a better bet than the dollar.

It needn't hurt

Two countervailing factors, it is argued, will tend to support the dollar. First, emerging economies hold so many greenbacks that they fear the capital loss that they would incur if they encouraged the dollar to drop. Second, they want to keep the value of their currencies down to help their exports. But the longer they continue to pile up dollars, the bigger the eventual losses. That thought is likely to discourage them from buying even more dollars. And they may calculate that the greenback still has a way to fall. Talk of its weakness is greatly exaggerated: its real trade-weighted exchange rate against a broad basket of currencies is still close to its 30-year average. In other words, the dollar needs to fall by a lot more to make a significant dent in America's external deficit.

Does a falling dollar, with its implications of American weakness, spell doom for the rest of the planet? Not necessarily. The world economy could well benefit from a gradual slide in the greenback. It would help to reduce global current-account imbalances and, by shifting production into America's tradable sector, would cushion the United States' economy as its housing bubble bursts. True, a weaker dollar would tend to hurt exporters in Europe and Asia. But the impact on those economies could be offset if central banks hold interest rates lower than they otherwise would, thereby boosting domestic demand—exactly what is required for global rebalancing. The current strength of growth in Europe and Asia will also help to prevent an American downturn from turning in to a worldwide slump.

If a steady slide in the dollar would be good news, a sharp plunge as investors take fright and run would be another matter. That could increase risk premiums and unnerve frothy financial markets around the world. A tumbling dollar would also add to inflationary pressures in America and so make it harder for the Fed to cut interest rates to cushion a collapsing housing market (Mr Bernanke gave warning this week that inflation remains “uncomfortably high”). Both America and the world would then pay a painful price for the long-delayed drop in the dollar.

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Islam and Christianity

Muslims and the pope

Nov 30th 2006
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Christians in the Muslim world need support from Muslims in the Christian world

Alamy

Get article background

“WELL, it was time somebody spoke up, wasn't it?” Quite a few Westerners, by no means all of them Christians or fans of the Vatican, will have muttered something like that as they watched Pope Benedict touring Turkey and speaking up for the rights of Christians and other non-Muslims.

By linking Turkey's hope of a European future to a change in its attitude to minority faiths, the pope has given heart to a growing body of people who demand “reciprocity” in relations between the Muslim world and the West. Their argument is that since Muslim minorities are free to practise their faith in historically Christian countries, the Western world should expect Muslim countries to show more respect for the rights of local Christians (and, indeed, Jews).

In countless ways, the argument goes on, those rights are violated—ranging from Saudi Arabia's ban on non-Muslim worship to the more subtle pressure on the Copts of Egypt who fear the rising power of Islamism. In divided lands like Nigeria and Sudan, Christians in Muslim-dominated regions say they are subject to *sharia* law at its harshest. In Iran, around 300,000 Christians and 30,000 Jews report harassment, discrimination and hostile propaganda from the official media; followers of the Bahai faith suffer even more.

At its crudest, talk of “reciprocity” can sound grim. The West should treat all religious groups fairly on principle—not as a part of any trade-off. Even if the fate of Christians in the Islamic world were far worse, that would not be a reason for the West to mistreat Muslims. But religious minorities in Muslim lands should be a cause for a concern—among all Westerners, not just church leaders. Apart from the general principle of human rights, religious diversity is a safeguard against the “clash of civilisations” between Islam and the West that extremists expect or want. A settled, law-abiding Muslim population in the West, and content, secure religious minorities in the Islamic world, can be counters to the view that every place “belongs” to just one faith or culture.

One problem is that church leaders such as the pope are not best placed to make that case. As he has found in Turkey, many Muslims fear that their Christian neighbours are fifth-columnists for hostile Western powers. That fear grows when Westerners lobby for fellow believers in the East.

Who, then, is the ideal advocate for the rights of religious minorities in the Muslim world? One group of people who should join the fray are Muslim thinkers who live in the West and are hence free to interpret

their own religion, and interact with other faiths, in a more generous spirit than tends to be possible in the more conservative atmosphere of most Muslim-majority societies. As beneficiaries of a culture of religious tolerance, they are especially well placed to explain its merits to co-religionists in Islam's heartland.

As the pope learned in Turkey, the Ottoman treatment of minorities was less harsh than that of some Christian regimes. But it certainly shouldn't be idealised either, and nor should anyone argue that traditional Muslim theocracy—which protects the other “peoples of the book”, the Christians and Jews, but also treats them as second-class citizens—is any basis for a modern state. The old theocracy served a purpose, perhaps, in a different age, before the ideals of universal suffrage and human rights had been put forward. But it can have no place in today's world, and more Western Muslims should find the courage to say so.

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Russia and the West

Russia deserves pity as well as fear

Nov 30th 2006
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The cold war has not restarted—but the West should still worry about Russia

AFP

THERE is a prickly KGB officer in the Kremlin. He suppresses dissent at home and—if one believes allegations that he ordered the radioactive poisoning of Alexander Litvinenko, a former Russian agent who died in London last week—abroad. He obstructs America's foreign policy, sells arms to its enemies and cosies up to its rivals. He was a spectral presence at this week's NATO summit, where Russia seemed almost as pressing a concern as it was in the days of the Soviet Union. He uses his country's vast hydrocarbon reserves to bully the neighbours. Prepare, conclude many Western commentators, for a new cold war against Vladimir Putin's resurgent Russia.

The doomsayers are half right: Mr Putin's Russia is dangerous. However, this is as yet very far from being a new cold war. It is mostly Russians who are endangered. And for the West, Russia's enduring weakness should be at least as troubling as its much-advertised new strength.

Compared with the late 1990s, when it was ruled by a drunk and its currency collapsed, Russia has grown stronger under Mr Putin. But only relatively. Although its economy has recovered and its diplomacy is more assertive, Russia has an awesome array of problems, any one of which would be seen as cataclysmic in most rich countries. Booze and inadequate health services have helped to create a looming demographic catastrophe: the population is shrinking fast even before the full impact of a gathering AIDS epidemic is felt. Russia's robust growth is precarious, based on high prices for oil and gas that may not last and rising production that may not prove sustainable. Inequality is perilously wide. Rampant corruption hampers business and helps terrorism. The Kremlin has dealt with a separatist insurgency in Chechnya by fostering rule by a thuggish strongman, whose men terrorise and kill opponents not only in the region but also in Moscow. The north Caucasus is combustible; the army is crippled by graft.

This Russia certainly can and does threaten neighbours such as Georgia or Ukraine, which many Russian politicians still treat as wayward colonies (see article). But the threat it poses to the rest of the world has been overstated. Russia is neither exporting a defunct ideology nor fighting proxy wars with America, as it did during the cold war. Its hints at disruptions to Europeans' gas supplies are mostly bluff. Indeed, the biggest dangers Russia poses to the West may be as an incubator of assorted diseases and of Islamist extremism.

After Putin

The dangers to Russians, however, are real and daunting. The country is run largely in the interests of a ruling clique. Whoever killed Mr Litvinenko, it is a fact that the lives of Mr Putin's critics are often made uncomfortable and sometimes cut short. Many other Russians, not specially targeted, have fallen victim to his policies: ordinary people harassed by corrupt police; those who are kidnapped by Caucasian militias; entrepreneurs whose businesses are stolen by state-backed racketeers; teenaged conscripts hired out as slave labour by officers. That life has improved for many Russians under Mr Putin is undeniable, as is his continuing popularity. But it is impossible to know how popular he would be without the Kremlin's stranglehold on television, which peddles the traditional myth of the good tsar (responsible for everything that goes right) and his bad advisers (blamed for everything that doesn't). Both parliament and the courts have been neutered.

These depredations should concern the West too. For the biggest risk of all is that Russia's weakness and instability will at some point produce a regime much nastier even than Mr Putin's, which will inherit Russia's strengths: oil and gas pipelines and nuclear weapons. There are already clues as to the sort of government that could emerge from, say, a sharp economic downturn or a political crisis. Ethnic nationalism is on the rise, tolerated if not inspired by the Kremlin, most visibly in several racist murders: another sign that, for all the neon and imported cars that impress visitors to Moscow, Russia remains a profoundly sick society. The Kremlin's grip on the country relies mainly on Mr Putin himself—and he is due to step down in 2008. One popular Moscow view of the Litvinenko case is that it is just part of a murky factional infight ahead of Mr Putin's departure.

Outsiders should try to avert the risk that Russia's simultaneous strength and weakness will produce something even more terrifying than Mr Putin, but at the same time be ready to criticise his misdemeanours. It is a hard trick to pull off. Boris Yeltsin, Mr Putin's erratic predecessor, was adept at deflecting international scepticism about his rule by portraying himself as a bulwark against a communist revival. Mr Putin also relies on such better-the-devil-you-know thinking. But like most Russians, he remains sensitive to criticism by the West, which should not shrink from dishing it out—even if it ought also to avoid loose talk of a new cold war.

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Technology trends

Phones are the new cars

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From The Economist print edition

The car's history suggests that the phone's future is about divergence, not convergence

IT IS now the dominant technological item with which young people define themselves. What sort you have, how you handle it and how you customise it says a great deal about you. You may even have more than one: a commuter workhorse for use during the week, and a sportier model for the weekend. Your car? No, your mobile phone. The similarities between the two are striking—and informative.

Phones, like cars, are fashion items: people generally replace them long before they actually wear out. Both are social technologies that bring people together and act as symbols of independence for teenagers. And phones and cars alike promote freedom, mobility and new lifestyles, with unexpected social consequences. Both started off being defined by their precursors: early cars resembled horseless carriages, and early mobile phones looked similar to push-button fixed-line phones, only without the wire. Now both come in a bewildering range of strange shapes and sizes.

These similarities suggest that cars are a good place to look if you want to understand how mobile phones will develop in future. Cars have after all been around for more than a century, whereas mobile phones are at a much earlier point in their development. They are unquestionably the most personal, the most social and the most rapidly evolving technological devices on earth, and are likely to change as dramatically in the next decade as they have in the previous one (see article from the current *Technology Quarterly*). Look at what has happened to cars, and it is possible to make a few predictions.

Luxury comes as standard

The first, and most obvious, is that features that are found only on high-end phones today will be ubiquitous tomorrow. That is what has happened with cars. Luxury features such as a compact-disc player, electric windows, air conditioning and remote central-locking are now so widespread that it is difficult to buy a new car, at least in the developed world, without them. The same has started to happen with mobile phones: colour screens and cameras, once found in only the most expensive phones, are now difficult to avoid. That suggests that GPS satellite navigation, capacity for mobile television and storage space for hundreds of music tracks will also be standard features before long. Whether people will actually use these add-ons or not, however, is another matter.

Indeed, the second lesson from cars is that the direction of a technology's development depends as much on social factors as on technological ones. Who would have thought that diesel would ever be regarded as a green fuel, or that people would want to drive around suburbia in vehicles designed for off-road use in the wilderness? Mobile phones are also increasingly subject to fads (silver clamshells, ultra-thin black slivers) and occasionally something that sounds daft becomes popular. Nobody foresaw the rise of texting, for example. And the market for wireless earpieces depends on people's willingness to look as though they are talking to themselves. In contrast, although video-calling seemed an obvious use for high-speed mobile networks, it turned out that nobody wanted to use it. Predicting the future on the basis of technological progress alone, in other words, as the telecoms industry tends to, gives only part of the story.

Last, and perhaps most important, the history of the car suggests that the technology industry's current mania for “converged” devices is misguided. Nobody asks what the ideal shape for a car is, or predicts

that eventually all cars will look identical. Instead there are different models for different uses: roomy people-carriers for school runs, sports cars for those suffering mid-life crises, small cars for urban dwellers. Some people own more than one car, since no single vehicle meets all their needs. The same will surely be true of phones: the quest for the perfect handset that does everything is silly, since different types of users have different requirements. That suggests that handsets will become more diverse, rather than more uniform, in future: divergence, not convergence. At the same time, expect to see more people switching between different phones depending on the situation. For clues to the future of the phone, look in your driveway.

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America's nuclear deal with India

Blast from the past

Nov 30th 2006
From The Economist print edition

America won't, but others should hold the anti-nuclear line

AFTER a final joint polish from House and Senate, the controversial deal that for the first time in 30 years would open up civilian nuclear co-operation between the United States and a nuclear-armed India is expected soon to be signed into American law. This is no triumph of Republican-Democrat bipartisanship. The damage to the global anti-nuclear regime—founded on the bargain written into the Nuclear Non-Proliferation Treaty (NPT) that only those who renounce nuclear weapons should benefit from civilian nuclear trade and assistance—will be lasting and will spread. America now wants the informal Nuclear Suppliers Group (NSG) and the board of the International Atomic Energy Agency (IAEA), the UN's nuclear guardian, to change their rules to accommodate India's bomb-making as well. Doing so will make it that much harder to contain the proliferating fallout from North Korea's bomb test and Iran's continuing nuclear defiance.

George Bush calculates that the future benefits of pleasing India, a hoped-for ally in balancing the rise of China, will outweigh the blow to the NPT. India (like Pakistan and Israel) never signed the treaty, so unlike North Korea and a suspect Iran, it is argued, broke no rules with its weapons-making. Yet tossing aside 30 years of efforts to persuade others not to trade in nuclear materials and technology, unless countries accept full international safeguards on all their nuclear facilities (India doesn't now and won't in future), breaks America's faith with the treaty in two ways. India is being offered all the benefits of NPT membership without any of its obligations, thereby reducing the incentive for others to stick to their promises. Easing the squeeze on its uranium imports—India was running short of the enriched stuff for its civilian and military needs—will also indirectly help its weapons programme, something the NPT says quite clearly America should not do.

Congress chose not to salvage some good from a bad deal, by amending it to require that India cap its production of uranium and plutonium for weapons (as America, Russia, Britain, France and, it is thought, China have done). Lobbying from industry groups hoping for nuclear and other contracts won out.

With Congress backing the deal (a technical agreement must still follow), some NSG members are keen to join the scrum for nuclear contracts. Russia jumped in earlier this year by supplying nuclear fuel to India, claiming “safety” as a reason for providing uranium to an Indian reactor that could simply have been shut down. Others in the suppliers' group, though unhappy with an Indian exception, are reluctant to offend either America or India. Unless they find the courage of their anti-nuclear convictions, their choice will be to knock an India-sized hole in the guidelines for nuclear trade or, as China may insist, rewrite them so that others, such as proliferation-skilled Pakistan, could one day qualify too.

Will history repeat itself as folly?

India is first supposed to conclude a safeguards agreement with the IAEA. The Bush administration sold the deal to Congress by promising that India would separate out its civilian reactors and put them under full safeguards in perpetuity. India's civilian nuclear industry, however, is closely tied in with its weapons-making. That is why none of its own uranium-enrichment and plutonium-reprocessing plants, or its planned fast-breeder reactors (previously claimed to be civilian, but ideally suited for making plutonium for bombs) are on its inspection list. It wants the agency's 35-nation board to agree that inspectors can snoop around its “civilian” reactors only when foreign fuel is in use.

The irony is that the suppliers' group was set up in the first place, and nuclear safeguards extended, after India's first supposedly “peaceful” nuclear test explosion in 1974. Though the Indians claim (inaccurately) an unblemished record in recent years in preventing the leakage of weapons secrets, their first bomb—for that is what it was—was knocked together using technologies and materials provided for civilian use. Since then India has exploded five more, built around 50 and plans a stockpile of several hundred. Bending the anti-nuclear rules for India, whose weapons effort first inspired them, can only encourage others to consider a nuclear option too.

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Roads and rail

Britain isn't moving

Nov 30th 2006
From The Economist print edition

Labour should make amends for its failed transport policy in three ways

Get article background

ROADS and rail are the arteries and veins of a modern economy. Clog them up and the circulation starts to fail. Ignore the disease for too long and the patient's condition may take a serious turn.

Just about the only thing Britain's long-neglected and ill-managed transport system is doing fast nowadays is making that journey towards the emergency ward. The overground rail network, which virtually seized up after the Hatfield crash six years ago, is now carrying many more passengers—but on grievously overcrowded trains in and around London. The capital's underground system, which seems unable to cope with either a hot day or a sudden downpour of rain, is beset by delays as a misconceived renovation plan goes wrong again and again.

The dire performance of the railways matters a lot to frazzled commuters, but rail accounts for only 6% of passenger miles travelled in Britain whereas cars account for 85% of passenger miles; road also dominates freight transport. Around a quarter of all trunk roads are congested for more than an hour a day. Average speeds on main roads have been falling in the past ten years; and while congestion charging in central London has improved matters there marginally, the capital's outskirts, as well as provincial cities like Sheffield and Nottingham, are snarled up.

Successive governments have failed to sort out these problems. That is because they have not accepted two essential principles for making transport systems work: the public sector needs to plan, and the private sector as well as the public sector needs to pay.

Long years of short sight

Some of the consequences of this failure are calculable and some are not. Road congestion—the worst in Europe—both wastes time and imposes costs on business. The combination of the two is holding back productivity improvement, the mainspring of rising living standards; firms cannot take full advantage of new information technology through just-in-time production, for instance, if deliveries are unpunctual. The commuter network's unreliability threatens the City's precious international competitiveness. And beyond the economic costs, nightmarish train journeys and the frustration of sitting in traffic jams damage the quality of people's lives in ways that are not picked up in GDP figures.

Why has transport been so neglected in Britain? Partly because British governments have been bad at planning and investment, and partly because British drivers don't pay. The motorway network was built later than other countries and on a smaller scale; unbelievably, the now indispensable M25 ring road round London was completed only 20 years ago. Big schemes get caught up in the planning system and compensation offered is too low to silence objections. Britain has been particularly susceptible to a political myopia that has sacrificed transport projects when times were hard and public money was short: when public finances were tight in the early 1990s, for instance, the government slashed the roads budget. While continental drivers have long accepted that they should pay for the pleasure of zipping along motorways, British ones seem to regard it as their natural right; and governments have scarcely tried to disabuse them.

Yet even set against this dismal backdrop, Labour's record since 1997 wins the wooden spoon (see article). While the government has poured money recklessly into health, it has stinted on infrastructure. And the little cash available for transport has favoured rail, where the returns to investment are low, rather than roads, where they are high.

Crossroads, cross Britons

Gordon Brown, the chancellor of the exchequer, bears a heavy responsibility for the mess. Now that it looks increasingly as though he will become prime minister next year, he has realised that he must start clearing it up. On December 6th he will set out a new vision for transport policy to accompany his update on the public finances.

Three big changes of direction are needed. First, roads should take priority over rail. Rail is useful in providing a commuter network for big cities and main lines between them; but there is a good reason why most things and people travel by road. It is convenient, flexible, and, in a small country, allows passengers and goods to be shipped from door to door.

Second, roads should be priced. That would help restrain demand, would raise money to pay for increasing the capacity of Britain's stunted road network where this is necessary, and would show, through drivers' willingness to pay, where that capacity can most efficiently be added. Already, early studies of potential revenues from road pricing confirm what traditional cost-benefit analysis has long shown: that the gains from many road schemes (unlike those from many rail schemes) far outweigh their costs. And more roads need not conflict with the aim of tackling global warming. The right way to deal with greenhouse gases is through economy-wide measures, such as a carbon tax, rather than by picking on road transport, which accounts for only a fifth of all emissions and already pays more in various duties than would be extracted from it through any reasonable level of carbon tax.

Third, rail subsidy should be redirected. At present, four-fifths of government money goes to companies that account for less than a fifth of passenger miles. Subsidy should be spent not on thinly used rural lines but on improving jammed commuter services needed to keep cities working properly. And the money should be used for serious upgrades to the network, not dumbed-down information systems that tell passengers what they already know.

Mr Brown likes to portray himself as a long-term strategist. In transport, however, as in pensions, he has been disastrously short-sighted. Now he has the chance to make amends for a wretched record of neglect of the country's road and rail system over the past decade. If he fails, he will fray not just the fabric of the British economy but also the tempers of the British people. They will not forgive him.

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On organ donations, Saddam Hussein, the World Health Organisation, Nicaragua, place names

Nov 30th 2006
From The Economist print edition

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The gift relationship

SIR – The failure of an altruistic system to provide enough donors for organ transplants may indeed lead some to embrace an alternative free-market approach ("Psst, wanna buy a kidney?", November 18th). However, rather than abandon altruism, with its time-tested virtues, the system can be strengthened by incorporating an element of "strong reciprocity", a phenomenon which refers to the tendency of individuals to reward those who adhere to fair play and punish those who do not.

Although altruism is more common when the recipient is known, economic research shows that it can operate anonymously when buttressed by strong reciprocity. In terms of organ donations, this could be done by adding an extra option to the question: "In the event of my death, I agree to the donation of my organs." As well as the Yes/No options a third would state "Yes, with a preference to donate my organs to those who agreed to donate their organs."

Some will take this third option to reward altruistic organ donors, who take some psychological cost by agreeing to donate. It also punishes selfish non-donors by creating doubt about the availability of organs for them. The only way to resolve this doubt is to agree to donate. Altruism is thereby enhanced by strong reciprocity and we could anticipate that the total number of donors would increase.

Dr Donald Landry
Professor of medicine
Columbia University
Dr Rosemary Sampogna
New York

Justice for all

SIR – War-crimes trials by their very nature seek to have a political impact and are therefore politically charged. ("Judging Saddam Hussein", November 11th). All things considered, Saddam Hussein received a just trial on the law and the facts and it was no less fair than the Nuremberg or Tokyo trials after the second world war or the trials of Balkan and Rwandan war criminals at The Hague and Arusha, Tanzania. All those cases experienced political interference in varying degrees; the decision of General Douglas MacArthur to shield the Japanese Emperor Hirohito from prosecution is a blatant example. The legality of the invasion that ousted Mr Hussein is hotly contested, but its success in removing the dictator created facts on the ground that are recognised by law, including a new Iraqi government, and so the legal basis of his trial, as opposed to the invasion, is not in question.

Kingsley Chiedu Moghalu
Former adviser, UN War Crimes Tribunal for Rwanda
Geneva

Health warning

SIR – We disagree with your leader advising Margaret Chan, incoming director-general of the World Health Organisation, to reduce the priority given to "obesity, smoking and other non-infectious ailments" on the grounds of "nannying [that] diverts resources from other tasks" and "personal choice" ("Less Mary

Poppins", November 11th). For instance, on current trends tobacco will kill more than 1 billion people this century. Smoking is increasingly concentrated in poorer countries and among the poor within them. It is a major factor in the spread of deaths from tuberculosis and it should come as no surprise that tobacco control (nannying as you would have it) is one of the most cost-effective means of saving lives.

And it is misleading to talk of personal choice when tobacco is highly addictive and kills at least half of its addicts prematurely. The "noisy campaigns" that you rail against retain public support and have contributed to regulatory measures that an increasing number of countries are applying to good effect. The efforts of Dr Chan and the WHO to spread good practice to where the majority of the world's smokers live should be encouraged, not criticised.

Paul Isenman
Former head, Division for Aid Effectiveness and Policy Co-ordination
OECD
Paris
Dr Prabhat Jha
Centre for Global Health Research
University of Toronto
Toronto

Free to choose

SIR – Daniel Ortega's election win in Nicaragua highlights how successive interfering American governments have failed to countenance the likelihood of a Sandinista victory ("Dealing with Daniel", November 11th). The United States must realise that Latin American countries will sometimes choose left-leaning governments in the hope of mitigating the inequalities that successive centre-right governments have done so little to address. You also assume that Mr Ortega will govern poorly. He may, but his electoral success shows he is at least a lot smarter than his opponents, and so far he has done his best to indicate he realises that the future prosperity of the country depends on fostering a safe climate for foreign investors.

Peter Sandiford
Managua, Nicaragua

What's in a name?

SIR – It is right to lament the renaming of Bangalore as Bengalooru as the petty act of pompous politicians and misguided cultural activists ("Goodbye, Bangalore", November 11th). Jawaharlal Nehru once wrote that his country "was like some ancient palimpsest on which layer upon layer of thought and reverie had been inscribed, and yet no succeeding layer had completely hidden or erased what had been written previously." This will certainly apply to Bangalore.

Murali Reddy
Corvallis, Oregon

SIR – If the atavists were serious they would change Bangalore's name to Benda Kaluru. All they have done is attempt to lend an aura of authenticity by giving the anglicised name a local sounding pronunciation. Phoney nationalism trumps history yet again.

Anant Sundaram
Hanover, New Hampshire

SIR – I continue to be wearily amused by Mumbai, Chennai, Kolkata and the rest. But it strikes me as ironic that the country is still called India given that it has a perfectly good Hindi name, *Bharat*, enshrined in its constitution. Incidentally, I have reverted to Peking after being told by a Chinese acquaintance that my pronunciation of Beijing is no closer to the Chinese original.

T.W. Johnston
Great Bookham, Surrey

SIR – Why do you complain that English-speakers "are expected to kowtow to name-changer's whims" more so than other language speakers? This should be the case given that English is the world's most

widely spoken language. Only in English is my home country named after poultry. Its proper name is Turkiye, meaning the land of the Turks.

Naile Berna Kovuk
Evanston, Illinois

SIR – I am inclined to agree that Lake Malawi is a better name than Lake Nyasa, although the latter is no less tautological than the numerous River Bournes in England. However, you reminded me of one African name I would like to see used in preference to the colonial one. The Victoria Falls are locally called *Musi O Tunya*, "the smoke that thunders". I am sure that even her late majesty would applaud such a descriptive use of language.

Pete Davis
Kenley, Surrey

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America and the Middle East

Blood, tears and still no victory

Nov 30th 2006 | BAGHDAD
From The Economist print edition

Getty Images

After meeting “the right guy” for Iraq, George Bush mocks the idea of a graceful exit

Get article background

GEORGE BUSH returned to the Middle East this week a diminished figure. At home he has been thumped by the voters. In Iraq his dreams of an example-setting democracy have trickled away in blood. For all the brave words he exchanged with Iraq's prime minister, Nuri al-Maliki, in Amman at mid-week, it is widely assumed that his real aim now is simply to arrange a way for America to leave Iraq as soon as it decently can. Only then would the Republicans have a chance of retaining the White House in 2008. And only after it has left Iraq will America be able to restore its tattered influence in the wider Middle East.

Such, at any rate, is the conventional wisdom. But is it correct? And did anyone tell Mr Bush? The president certainly faces a daunting array of problems in the region. In this special section we look at four of them: actual civil war in Iraq, potential civil war in Lebanon, the stalemate in Palestine and the hostility of an Iran that seems intent on acquiring nuclear weapons. And yet despite all that has gone wrong in Iraq, America remains by far the strongest external power in the Middle East—and for the next two years Mr Bush will remain its president.

On his way to Amman, Mr Bush did not talk as if he felt like a weakling. He insisted at a NATO summit in Riga that American troops would not leave the battlefield until the mission in Iraq was complete. And after meeting Mr Maliki in Amman, he promised again that the troops would stay just as long as Iraq's government wanted them to. Liberty had to prevail in the Middle East, the president declaimed, “and that's why this business about graceful exit simply has no realism to it at all.”

Realism is in the eye of the beholder. The fact that Mr Bush met Mr Maliki in Jordan's capital rather than in Baghdad highlights how anarchic Iraq has become. Most of Iraq's politicians claim to want the same thing America wants: a united, non-sectarian state and an end to the violence that has killed tens of thousands in the past year alone. But with a diffuse network of Sunni guerrillas pitted against equally disorganised Shia militias, nobody has the authority to deliver. The governments that are party to the conflict, in Iraq and beyond, are several steps removed from the actual killing: all they can do is to cajole others to cajole the armed groups.

Mr Maliki succeeded in pressing Mr Bush to allow more Iraqi soldiers to come under his direct control. At present most of them answer to the American chain of command. But this will not have a huge impact on

the ground. Building up the Iraqi army, which suffers badly from ill-discipline and sectarian tensions but still appears to respond, more or less, to the prime minister's orders, is taking time. “It's not easy for a military to evolve from ground zero,” Mr Bush conceded.

Another basic problem is the domestic political weakness of Mr Maliki. After their meeting, Mr Bush said that the Shia prime minister was “the right guy” for Iraq and that it was in America's interest to help him. Privately, however, the Americans are increasingly unhappy about supporting a government that does not appear to be making enough effort to restrain Shia militias and reach out to the Sunnis

Behind the scenes, Mr Bush probably tried to encourage Mr Maliki to detach himself from Muqtada al-Sadr, the radical Shia cleric whose followers are believed to be responsible for a large share of the sectarian killing. Mr Maliki, however, needs Mr Sadr, who is one of the few leaders to have any influence over the Shia sectarian gangs, most of which claim association with his Mahdi Army but in practice operate autonomously. The young firebrand does appear to be doing a bit to restrain his more out-of-control followers.

Before the summit, the *New York Times* published a leaked memo written by Stephen Hadley, Mr Bush's national security adviser, saying of Mr Maliki that he “wanted to be strong but was having difficulty figuring out how to do so”. The memo emphasised Mr Maliki's need to put some distance between himself and Mr Sadr. Mr Sadr is meanwhile putting pressure on Mr Maliki to distance himself from the Americans. After a triple car-bombing in the Mahdi Army's east Baghdad support base of Sadr City killed more than 200 people last week, Sadrist officials said that the Americans were primarily to blame for failing to provide security. They threatened to pull out of the government if Mr Maliki went through with his meeting with Mr Bush, though in the event, the Sadrists merely “suspended participation”, a good step short of a full walk-out.

In Washington, debate is transfixed on the report expected next week from the Iraq Study Group, a bipartisan committee promising sagacious advice on how America can best extract itself from the quagmire (see article). One much-leaked idea is said to be for American talks with Iran and Syria about how they could help calm Iraq, perhaps in the context of a regional peace conference that would touch on Palestine too. But Iran and Syria do not feel they need America's invitation to become involved. Syria established formal ties with Baghdad last week after a break of 25 years. This week, Iraq's president visited Tehran (see article) while Mr Maliki was packing for Amman. Iraq's neighbours have their own interest in limiting the chaos. That does not make them eager to help America. And nor did Mr Bush say anything in Amman to suggest that he is in the market for that “graceful exit”.

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Iran and America

What hope of a grand bargain?

Nov 30th 2006
From The Economist print edition

Two countries, never in tune

Reuters

Iraq's president meets Iran's

FOR close to three decades America and Iran have had little to say to each other officially except by megaphone. Now George Bush's Democratic critics want him to talk to both Iran and Syria to help find a way out of Iraq. Iran's fiery president, Mahmoud Ahmadinejad, who was this week hosting his Iraqi counterpart, Jalal Talabani, in Tehran, certainly pretends to the role of regional power-broker: he says America should get out of Iraq.

But Iran is not only a player in Iraq's violent politics. It also arms Hizbullah in its face-off with Israel, and funnels cash to militant Palestinian factions, including Hamas. It supports Syria's meddling in Lebanon, and continues to defy UN Security Council demands that it suspend the most dangerous bits of its nuclear programme.

What to do about Iran divides the Bush administration in part because the stakes are so high. Mr Ahmadinejad's virulent rhetoric, his desire to see Israel “wiped from the map” and his bid for wider Muslim leadership make an Iranian bomb a nightmare for America, Israel and a Europe soon to be in range of Iran's missiles. Some Iranian officials hint that they might consider helping in Iraq only if pressure on the nuclear programme is lifted.

Americans debate whether a “grand bargain” might bury the hatchet. The idea would be to end Iran's support for terrorism and clear up nuclear suspicions by restoring relations, improving political and trade ties and addressing Iran's security concerns. The trouble is, Iran's interests seldom chime with America's.

A bid by some in Iran's leadership to open a dialogue after America's invasion of Iraq in 2003 was rebuffed by the Bush administration, whose loudest voices were for “regime change”. A missed opportunity? Iran's continued arming of anti-Israeli terrorists, and its refusal to hand over members of al-Qaeda, supposedly under “house arrest” in Iran but suspected of having planned further attacks, helped kill the proposed talks.

Iran's ruling factions are likewise divided over how, or whether, to deal with America. Mr Bush's predicament in Iraq has emboldened the hardliners. For now, Iran appears not to want serious talks.

In an effort to strengthen the hand of European diplomats trying to talk Iran out of its nuclear ambitions, Mr Bush last year agreed to a package of trade and other incentives, including some advanced nuclear technology. In May this year he said America would take part in negotiations, once Iran suspended its suspect nuclear activities. Each time he took a step towards Iran, it stepped up its nuclear work. An offer from America's ambassador in Baghdad to discuss ways of quelling the violence in Iraq was likewise spurned.

With his coffers full of oil money, and Europeans dependent on his oil, Mr Ahmadinejad is confident he can ride out any sanctions. He boasts that with America tied down in Iraq, it is in no position either to try a military strike against Iran's nuclear facilities or assist an Israeli one.

That could prove a miscalculation. America has been gambling on a diplomatic solution to the nuclear issue, with some in the administration hoping other talks might follow. But Mr Bush insists that, despite

Iraq, all options are open.

Oil, meanwhile, is off its peak and increasing Saudi capacity could soon cope with a threatened Iranian oil cut-off. The extent of Iran's military support for Hizbullah in its war with Israel earlier this year alarmed Arab neighbours. And at home, the economy needs the investment that Mr Ahmadinejad's threats scare away. Iran can miss opportunities too.

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Israel, Palestine and America

Where Mr Bush chose not to go

Nov 30th 2006 | JERUSALEM
From The Economist print edition

Can the ceasefire survive?

AP

Enforcing the ceasefire

THAT George Bush, who has never visited Israel or the Palestinians as president, chose not to pop over this week from Jordan, served as a useful signal to their leaders that they are in danger of becoming irrelevant to him.

Israel's misadventure against Hizbullah in Lebanon this summer ruined Ehud Olmert's credibility as prime minister and put paid to his plan to pull out of parts of the West Bank. Since then, Israel's assaults on Gaza, trying to release a captured soldier and stop rocket fire, have killed hundreds of Gazans, many of them fighters but many also bystanders and children. For his part, Mahmoud Abbas, the Palestinian president, has failed in months of attempts to broker a unity government for the Palestinian Authority (PA) between his ousted Fatah party and the ruling Hamas. With two years of his term to run, Mr Bush might well be inclined to give up on his “vision” of “two states living side by side in peace and security”.

Lucky, then, that the two leaders agreed to a ceasefire between Israeli forces and the five main Palestinian militant factions, which took hold three days before Mr Bush's visit to Jordan. The truce, however, is as fragile as can be. It applies only to Gaza and one faction has already breached it, in retaliation, it said, for Israeli operations in the West Bank. Israel has authorised its troops to fire on Gaza if they identify an imminent rocket attack.

Unwilling to deal with Hamas unless it accepts the three conditions of the “Quartet”—recognise Israel, honour previous Israel-PA agreements and renounce violence—America's strategy is to try to fortify Mr Abbas, while hoping that Hamas either caves in or is squeezed out by the pressure of the nine-month-old international boycott of the PA. It was Mr Abbas who talked the armed factions into the ceasefire and called the Israelis to get them to accept. Now he is working to shore it up.

By next week he hopes for a deal to extend the ceasefire to the West Bank, and also to halt the arms-smuggling through tunnels under Gaza's border with Egypt. Since it is not the militants who do the smuggling, but criminal gangs, a mere gentlemen's agreement will not suffice; the PA security forces might have to enforce it.

Mr Olmert got his share of the attention this week with an impassioned speech offering the Palestinians peace talks, prisoner releases, big territorial concessions and statehood. Though he said little he has not said before, tidying it all up in a single speech made an impact—not least on Israel's right, which now accuses him of selling out. He still insists that the soldier in Gaza be released first, and that any PA government meet Quartet conditions. But the speech did underline the fact that unilateralism, the policy that Mr Olmert's predecessor, Ariel Sharon, pioneered with last year's Gaza withdrawal, is no longer an option. If Israel leaves the West Bank, it will be through negotiations.

However, the ceasefire could fall apart at any minute. And however long it lasts, there can be no peace talks before the two sides agree to exchange the Israeli soldier for several hundred Palestinian prisoners, and the Palestinians agree on a unity government. On the first issue, there is deadlock over numbers, but at least there are talks, with Egypt mediating. On the second, talks are suspended: Hamas's Ismail Haniyeh, the Palestinian prime minister, left this week on a foreign tour.

America's European and Arab friends keep telling Mr Bush that his path would be smoother in the Middle East if he were seen to be doing more for the Palestinians. But the Bush administration remembers how Bill Clinton devoted the last months of his presidency to Israeli-Palestinian peacemaking, and was rewarded only by the collapse of his efforts and the eruption of a violent Palestinian *intifada*. For that reason, caution has long been Mr Bush's watchword in Palestine. Condoleezza Rice was to meet Mr Abbas in Amman on November 30th, and Mr Olmert in Jerusalem the following day. But the ball, the Americans say, is still in Hamas's court.

However, polls show that most Palestinians still blame outsiders, especially America, more than Hamas for their woes, and that the party has not lost much, if any, popularity to Fatah. America's gamble that Hamas will collapse is highly risky. But for now its main concern seems to be whether Mr Abbas can meet the short-term goal of enforcing a ceasefire. If he can't, the longer-term goals will be moot.

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Lebanon and America

That let-down feeling

Nov 30th 2006 | CAIRO
From The Economist print edition

How gratitude turned to suspicion

GEORGE BUSH has a gift for simplification. “There's a young democracy in Lebanon, run by Prime Minister Siniora,” he said. “And that government is being undermined, in my opinion, by extremist forces encouraged out of Syria and Iran.” Many Lebanese agree, and some would thank America for having helped bring Fouad Siniora and his pro-Western coalition to power last year, by forcefully backing the popular uprising that ended years of Syrian tutelage.

But plenty of Lebanese see things differently. They think Mr Siniora's government greased its way into office with money, and is being used as a spearhead for Western influence. The resentment of American support for Israel that the Lebanese share with other Arabs was compounded by last summer's brutal war. Even for those allied to Mr Siniora, faith in the superpower took a rough shaking as his erstwhile American friends dawdled diplomatically while Israeli bombs systematically demolished the country's infrastructure. Moreover, deadly cluster bomblets, supplied to Israel by America, still clutter south Lebanon.

The Cedar revolution that erupted after the February 2005 assassination of Rafik Hariri, a former prime minister who had turned hostile to Syria, had seemed to boost American influence. With the ignominious withdrawal of Syrian troops, the Bush administration held up the apparent triumph of Lebanese people-power as the shiniest model for its initiative to defeat extremism in the region by spreading democracy.

But on the ground in Lebanon that triumph soon began to sour. Last summer's war completed a growing polarisation between two factions of roughly equal number, Shias and their Christian allies, and Mr Siniora's grouping of Sunni Muslims, Druze and anti-Syrian Christians. Government supporters blamed Hizbullah for igniting the conflict with Israel and so exposing the fragile country to ruin. But the suffering of Lebanon's Shias, combined with Hizbullah's effectiveness at both fighting and rebuilding, hugely strengthened the party's claim to leadership of a country that, in its vision, aspired to be a bastion of resistance to the West rather than a cosmopolitan entrepot.

With both sides tarring their opponents as traitors and agents of foreign powers, the semblance of unity in Mr Siniora's government unravelled. And though it may be doctrinal hostility to America, and allegiance to Iran and Syria, that are propelling the current push to unseat the government, Hizbullah has capitalised on suspicion of America to broaden its appeal beyond its core Shia constituency.

The threat of unrest has raised fears that Sunnis will be pitted against Shias, and pro- and anti-Syrian Christian factions against each other. Not since the end of the 1975-90 civil war, has war seemed so imminent. The memory of that war is bitter for all Lebanese, but perhaps most for those who pinned hopes, in the wake of Israel's 1982 invasion, on American intervention—only to see America scuttle the place in 1984 after suicide-bombers killed 241 Marines in Beirut. Syria then took over. To the glee of Hizbullah, Syria and Iran, and to the chagrin of Mr Bush, a similar scenario could be about to unfold.

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America and Iraq

Waiting for Baker

Nov 30th 2006 | WASHINGTON, DC
From The Economist print edition

All eyes are on the Iraq Study Group

ON THE afternoon before the beginning of the 1983 G7 summit James Baker, then White House chief of staff, dropped in to see his boss, Ronald Reagan. Mr Baker was worried about Reagan's lack of preparation for the meeting, where “Reaganomics” was sure to be a source of contention, and left behind a carefully prepared briefing book. But when he returned next morning he was furious to find that the book was unopened—and set about remonstrating with his lazy pupil. “Well, Jim,” Reagan replied calmly, “‘The Sound of Music’ was on last night.”

One may be sure that Mr Baker's current effort will receive rather more attention than the 1983 briefing book. There is no hotter subject in Washington, DC, these days than the Iraq Study Group (ISG)—a bipartisan commission that is co-chaired by Mr Baker and Lee Hamilton, a Democrat.

The speculation grew to fever pitch this week as the ISG decamped to the Reagan Building to complete its interviews and debate its final draft. The ISG's mid-week announcement that it will publish its report on December 6th intensified the excitement still further. The *New York Times* reported that the group will recommend a gradual withdrawal of American troops, though it will stop short of laying out a timetable, and it is not clear whether the withdrawal will be to bases inside Iraq or out of the country altogether.

That report was not confirmed, but it chimed with expectation: in all likelihood, what the ISG has agreed on is to split the difference between those (mainly Democrats) who want a firm timetable for withdrawal and those who are committed to “staying the course”. Everyone, though, is likely to have accepted that America should increase the pressure on the Iraqi prime minister, Nuri al-Maliki, to forge an accommodation between Sunni and Shia militias, a task that may very well be beyond him. More definitive are reports that the ISG will recommend that America talk to Iran and Syria. Mr Baker has been saying this for weeks.

Why is everyone so obsessed with the ISG? It was appointed by Congress rather than the White House (the man who came up with the idea was a congressman from Virginia, Frank Wolf). The Pentagon and the White House have both commissioned studies of their own. The ten members of the group—five Republicans and five Democrats drawn from the ranks of the Washington establishment—have only spent a few days in Iraq (and only one of them, Charles Robb, dared venture outside Baghdad's Green Zone).

One reason for the inflated expectations is the stature of the ISG's members. They include two former secretaries of state (Mr Baker and Lawrence Eagleburger), a former Supreme Court justice (Sandra Day O'Connor), a former defence secretary (William Perry), two former senators (Alan Simpson and Mr Robb), a Washington power broker (Vernon Jordan), a former Democratic White House chief of staff (Leon Panetta), and a former attorney-general (Ed Meese).

Mr Baker's presence is particularly noteworthy. Mr Baker is a close friend of George Bush senior—they live close to each other in Houston—and Mr Baker has a long history of riding in to help the Bush family when times get tough. He took over Mr Bush senior's faltering election campaign in 1988 and masterminded the Florida recount for his son. Mr Bush senior calls Mr Baker “Bakes”: Mr Baker calls him “*el jefe*”.

The other reason for the expectations is growing despair about Iraq. A year ago the administration published a “National Strategy for Victory in Iraq”. Today nobody in the White House would dare be so bold. For the past month there has been nothing but bad news from Iraq: the bloodiest single day in Iraq since the war began in March 2003; the secretary-general of the UN speculating that Iraq is on the verge of civil war; a Marine Corps report claiming that the army is no longer able to defeat the al-Qaeda-led insurgency in the west.

Many powerful Americans are embracing the ISG for cynical reasons. Some Republicans think it may give them the cover that they need to disentangle themselves from a war that cost them their majorities in both chambers of Congress on November 7th. Democrats hope it may save them the trouble of producing their own solutions to the war, which has exposed the sharp differences between the anti-war left and the previously pro-war centre.

But whatever the report recommends, it is still far from clear that the president will act on it. True, Mr Bush has talked warmly about the ISG. He has reduced his definition of success in Iraq from democratisation to establishing a workable government. But he has also made a point of commissioning further reports from the Pentagon, the State Department and his own White House, presumably to widen his options. The vice-president, Dick Cheney, may anyway prove a formidable obstacle to implementing Bakerism. Philip Zelikow, the most Baker-like senior member of the State Department, announced that he is leaving this week, perhaps a sign that he does not think policies he has long championed are about to gain traction.

The eclipse of neoconservatism

The final reason for the excitement about the ISG has less to do with Iraqi politics than American politics: many people see it as a harbinger of a new era of policy-making. The Baker-Hamilton boys have gone out of their way to be as different from the Bush-Cheney lot as possible. The ISG has sought opinion from senior members of the Clinton administration as well as the Bush administration. It has tapped as many experts as possible—consulting hundreds of people in and out of government. The ISG has also sidelined neoconservatives, who are not represented on it at all.

The group signals the arrival of a new way of doing foreign policy—or rather the return of an old way. Mr Baker is one of the most distinguished practitioners of the Kissingerian school of realpolitik. He has publicly mocked hopes for “a flowering of Jeffersonian democracy along the banks of the Euphrates”. He has repeatedly emphasised that he believes America ought to have discussions with Syria and Iran. He is thus the very antithesis of the neo-conservatives who have dominated American foreign policy for most of Mr Bush's presidency. Perhaps he is the sort of American right-winger that the rest of the world can do business with. But that does not mean that even he can save Iraq.

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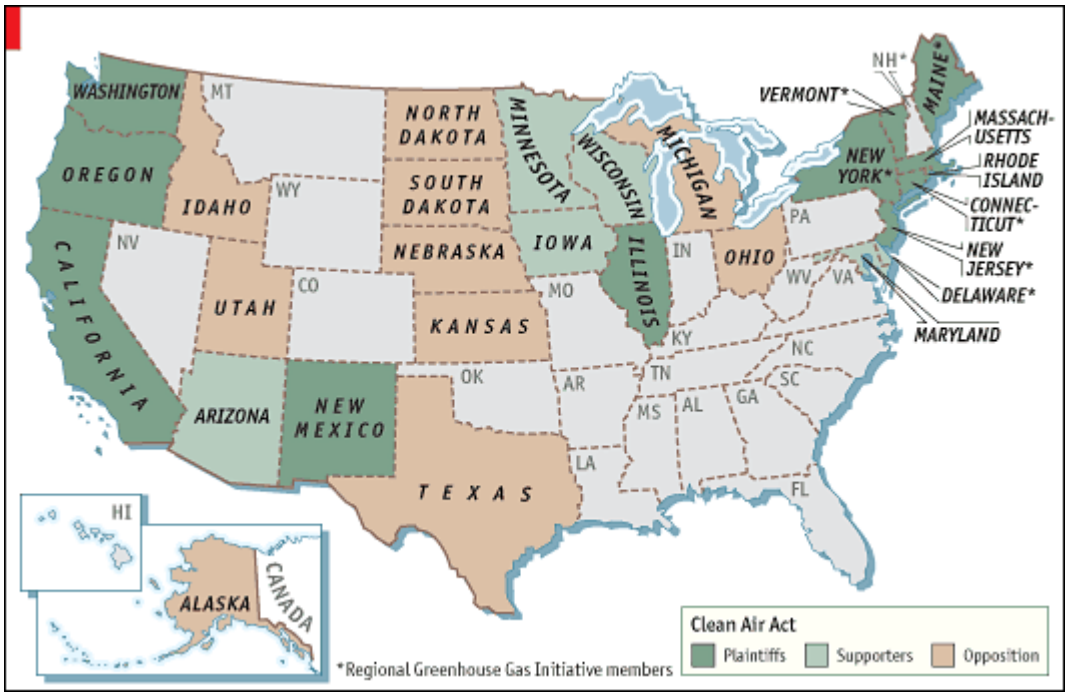
Global warming

Airing grievances

Nov 30th 2006
From The Economist print edition



Green states take the federal government to court

WHEN the subject is global warming, the villain is usually America. Although it produces a quarter of the greenhouse gases that are heating up the planet, it refuses to regulate them. When other countries agreed on an international treaty to do so—the Kyoto protocol—America failed to ratify it. But not all American officialdom is happy with the federal government's stance. In fact, 12 states disagree so fiercely that they are suing to force it to curb emissions of carbon dioxide, the most common greenhouse gas. The Supreme Court heard argument in the case on November 29th. The outcome will not be known for months, but the political wind seems to be shifting in favour of firmer action to counter climate change.

The Clean Air Act charges the Environmental Protection Agency (EPA) with regulating air pollution from vehicles. But the EPA argues that Congress did not intend to include CO2 under that heading, and that to do so would extend the EPA's authority to an unreasonable extent. Furthermore, it contends that regulating emissions would not do good unless all or most other countries did the same. That is in keeping with the policies of President George Bush, who opposes mandatory curbs on emissions and believes that any international accord on global warming should apply to all countries—unlike the Kyoto protocol, which exempts poor ones, including big polluters such as China and India. Ten states (see map), among them gas-guzzling Texas and car-making Michigan, also back the EPA.

The plaintiffs comprise 12 states, three cities, various NGOs, and American Samoa, a Pacific territory in danger of vanishing beneath the rising ocean. They are supported by a further six states, two power companies, a ski resort, and assorted clergymen, Indian tribes and agitated grandees such as Madeleine Albright, a former secretary of state. They point out that under the administration of Bill Clinton, the EPA decided that it did have the authority to regulate CO2. The act, they note, says the EPA should regulate any air pollutant that “may reasonably be interpreted to endanger public health or welfare”. It goes on to define public welfare to include “effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate”.

The Supreme Court may give a mixed ruling, decreeing that carbon dioxide is indeed a pollutant, but one the EPA is free to ignore or regulate as it pleases. Or it might dismiss the complaint on the grounds that the plaintiffs did not have the right to lodge it in the first place. In theory, they must prove that the EPA's foot-dragging has caused them some specific harm that regulation might remedy—a tall order in a field as fraught with uncertainty as climatology. Even if the court found in the plaintiffs' favour, rapid change is unlikely. By the time the EPA had implemented such a ruling, Congress would probably have superseded it with a new law.

That is the point, environmental groups say. They want Congress to pass a law tackling global warming, and hope that a favourable court ruling will jolly the politicians along. Moreover, the case has a bearing on several other bitterly-contested lawsuits. Carmakers, for example, are trying to get the courts to strike down a Californian state law based on certain provisions of the Clean Air Act that require them to reduce their vehicles' CO2 emissions. If the Supreme Court decides that the act does not apply to CO2, then the Californian law would also be in jeopardy. That, in turn, would scupper the decision of ten other states to adopt the same standard.

However the Supreme Court rules, many state governments are determined to tackle climate change. California is in the vanguard. Its legislature has passed a law that will cap and then reduce industrial emissions of greenhouse gases. Seven eastern states have formed the Regional Greenhouse Gas Initiative, which will treat emissions from power plants the same way. Almost 400 mayors have signed an agreement to cut their cities' emissions in line with Kyoto. Many businesses, even some power companies, would rather see regulation now than prolonged uncertainty. And several of the leading contenders for 2008's presidential election are much keener on emissions caps than Mr Bush. Change is in the air.

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Small business and the Democrats

They want to be left alone

Nov 30th 2006 | CHICAGO
From The Economist print edition

How will small-business owners fare under the Democrats?

AROUND 99% of America's 26m businesses have fewer than 500 employees. Toss out all the sole proprietors and that still leaves some 6m small-business owners. Many of them are just the sorts of independent-minded voters that the Democrats managed to woo in this year's elections, especially in the suburbs. Rising workers' health costs, fiscal recklessness, and other failures have soured their view of George Bush's Republicans. The new Democratic majority, however, also presents a mixed bag for small firms. Although their owners tend to agree that Mr Bush is too cosy with big and powerful corporations, many of the Democrats' favourite ideas, such as a pledge to raise the minimum wage and a fondness for taxing people after death, also worry them.

American small businesses are hardly a uniform bunch. A lot of smallish companies, for example, are profitable or promising enough to list their shares publicly. These firms have been hit especially hard by the worst bits of the 2002 Sarbanes-Oxley Act, which cleaned up corporate governance but also saddled them with expensive reporting burdens. For the most part, however, small-business lobbies in America tend to fall into two broad camps.

The first of these is delighted to have Democrats running Congress. It includes the American Small Business League (ASBL) and various pressure groups for women and minority entrepreneurs, all of which devote most of their lobbying energy to increasing their share of the fiscal gravy train. The Small Business Administration (SBA) guarantees loans, for example; and the federal government must award 23% of all its procurement contracts to firms with fewer than 500 workers. Although the Bush administration claims to be meeting that goal, these groups complain that many contracts are being miscounted, since they are in fact being funnelled to big companies.

In some cases, small firms grow beyond the size limit for special treatment, yet hang on to their long-term contracts anyway; in others, big companies acquire the small ones and keep selling to the government. Several investigations, including by the Government Accountability Office, have found examples of this sort of abuse.

The other broad camp of small businesses, by contrast, comprises firms that mostly pull their own weight. Many belong to the National Federation of Independent Business: in 2003, 93% of NFIB members reported taking no government cash in the previous three years. Their concerns overlap somewhat with those of the ASBL and other subsidy-driven groups. In Congress's last session, for example, the NFIB pushed for better access by small firms to contracts with federal prisons. But their main goal, other than reining in health costs, is to keep onerous taxes and regulations under control. The SBA reckons that firms with fewer than 20 workers spend nearly $2,400 more complying with regulations, per employee, than companies with more than 500 workers.

So far, the Democrats do not have this bunch overly worried. They have promised to raise the minimum wage sharply in the first few days of the new session, in January. But Mr Bush has promised to sign it into law only if it includes relief for small businesses. The Senate is likely to provide that, probably in the form of tax exemptions. The incoming chairman of the Senate Finance Committee, Max Baucus, is a moderate Democrat.

Small businessmen are also hopeful of a change in the alternative minimum tax. This was initially formed to close loopholes for the rich, but is now driving up taxes for millions of additional Americans every year. Brad Close, who lobbies House members for the NFIB, is cheered that the Democrats seem keen to lower this burden. He also perceives a bipartisan consensus on several nuisances for small firms, which get little public attention but which Congress will probably get round to removing. It would be nice if

comprehensive health reform were also in the offing; but in its likely absence, small business owners will push for rules that at least make access to insurance a little easier.

Beyond this short and important wish list, most of America's small business owners will count themselves lucky if the Democrats leave them alone.

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Polygamy

Back in fashion

Nov 30th 2006 | WASHINGTON, DC
From The Economist print edition

Big love dares to speak its name

IN 2001, Warren Jeffs officiated while a 14-year-old girl married her 19-year-old cousin. It was the first marriage for the bride and meant to be the first of many for the groom. Mr Jeffs is the leader of the Fundamentalist Church of Jesus Christ of Latter-Day Saints (FLDS). With perhaps 10,000 members, it is the largest of the polygamous sects that spun off from Mormonism more than 100 years ago. On November 21st prosecutors in Utah argued that Mr Jeffs should be charged with two counts of rape as an accomplice.

The case has brought renewed attention to polygamists in America. The practice is illegal, and widely reviled. A Gallup poll in May 2006 found that 93% of Americans consider it immoral. The threats of prosecution and persecution have usually been enough to keep polygamists subdued. But lately they are becoming emboldened. For one thing, the scorn is often mutual. “It would be easier to lie, cheat, and steal like you guys do,” one polygamous husband told a television reporter. “I have a certain amount of disgust for monogamy.” Besides, the debate over gay marriage has led to a wide national dialogue over traditional morality. Earlier this year, the television network HBO aired a series about a polygamous family. “Big Love”, which got respectable ratings, portrays plural marriage as more demanding than deviant.

Mormon fundamentalists argue that anti-polygamy laws infringe religious liberty. The American Civil Liberties Union of Utah agrees, saying there is no reason to criminalise “private, consensual, adult relationships that are motivated by sincerely-held religious beliefs”.

The idea that the government has no business meddling in relationships between consenting adults is, of course, a pillar of the gay-marriage movement. Opponents of gay marriage have always argued that opening the institution to homosexuals would put America on a slippery slope to polygamy, incest and worse. But Mormon fundamentalists do not want to get into bed with sinners like homosexuals. And gay-rights advocates have distanced themselves from polygamists. They argue that sexuality is intrinsic, while polygamy is a choice with grievous social consequences.

So far, the public response to polygamy has been practical, not philosophical. In Utah and Arizona, which are home to sizeable Mormon fundamentalist enclaves, the official policy is to ignore plural marriages unless they are associated with incest, fraud or abuse. The Canadian Department of Justice took a similar line earlier this year, when it recommended decriminalising the practice.

As the Jeffs case shows, polygamy-rights activists have an uphill public-relations battle. Abuse and coercion are only the most obvious dangers of polygamy. Last year the *Phoenix New Times* reported that inbreeding among the FLDS “is producing a caste of severely retarded and deformed children.” The FLDS has also cast out more than 400 young men. These “lost boys” were supposedly excommunicated because of moral lapses like wanting to go to public schools. They also presented unwelcome competition for wives.

Another stumbling-block for polygamists is that numbers are not on their side. Millions of Americans are gay, and many millions more have gay friends or relatives. Polygamists are hard to come by, despite the order to be fruitful and multiply. Principle Voices, a pro-polygamy group, reckons that there are only about 37,000 Mormon fundamentalists in America.

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Snakes in Florida

Burmese days

Nov 30th 2006 | MIAMI
From The Economist print edition

What will humans do next to the Everglades?

Reuters

PROTECTING the Everglades, southern Florida's vast subtropical marshlands, is full-time work. Water managers already have their hands full trying to undo the damage done to their river network by efforts years ago to create a system of canals to prevent flooding that broke up the area's natural flow. Now comes another unintended yet equally man-made threat: an invasion of Burmese pythons.

The great snakes have been showing up in increasing numbers—and size—over the past couple of years. How they got there remains a bit of a mystery but it is presumed that they started out as exotic pets which were discarded once they outgrew their aquariums.

Researchers are surprised how well the pythons have adapted to Florida, which can get chilly in the winter (temperatures dropped into the low 40s in November). Pythons breed rapidly, and the Burmese population is estimated to be in the thousands. Some have been spotted in the outer reaches of Miami, where they have been gobbling up local pets. What worries the scientists most is the impact the hungry pythons are having on the Everglades' indigenous population of rodents, bobcats and wading birds. The pythons have even been known to devour the odd alligator. Last year rangers found a 13-foot (4 metre) python with a half-eaten six-foot alligator in its jaws.

In an attempt to bring the python population under control, scientists have come up with an ingenious solution: using pythons to catch pythons. Seven females are being implanted with tiny radio transmitters and sent back into the wild in the hope that they will lead hunters to nesting areas among the multitude of little wooded islands, known as hammocks, that dot the 2.5m acres (1m hectares) of marshland. Scientists are also trying to lure male pythons into traps using the scent that females emit at breeding time. And the park has trained a beagle, named Python Pete, to sniff out the snakes. The dog spent this summer at a research centre in the park, honing his sense of smell with the help of two trainer snakes, Burmese Bob and Burmese Bart.

Florida legislators are also considering new regulations to discourage people from buying the snakes, including requirements for special permits and locked cages. Another idea is to require python owners to have their pets fitted with microchips. Others just say pet pythons should be banned entirely.

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Branding lobsters

Decapod duels

Nov 30th 2006 | PORTLAND, MAINE
From The Economist print edition

Maine takes on the impostors

HEAVILY-ARMOURED and pretty ugly, the lobster makes for an unlikely icon. But in Maine the crustacean appears on everything from T-shirts to key-rings. Lobster-boats even feature on the top of the state's driving licence.

And for sound economic reasons. Lobsters are Maine's most valuable fish, generating $300m in annual sales, and accounting for 60% of America's entire lobster catch. As other fisheries have collapsed—cod, haddock, and sea urchins to name a few—lobstering has become the lifeblood of scores of fishing hamlets that dot Maine's rocky coast.

Maine goes to great lengths to protect the industry. From 1941 to 1973 state law prohibited the possession or sale of crawfish, the Caribbean spiny lobster and various other competitors. Another banned the import of lobster meat from other states until 1968, when federal judges reminded Maine that the constitution prohibits impediments to interstate commerce. Now a new effort is under way, this one targeting what the Maine Lobster Promotion Council (MLPC) calls “Impostor Lobsters.”

The fakes come in two varieties, according to the MLPC's executive director, Kristen Millar. The first are American lobsters caught outside the state, but marketed as “Maine” lobsters. In response, MLPC has created special tags that dealers can affix to their lobsters' claws carrying the trademark “Certified Maine Lobster.” Since the voluntary programme started this August, dozens of dealers have joined, eager to build a brand out of what has until now been sold as a commodity.

The effort irritates out-of-state dealers who point out (rightly), that lobsters caught in New Hampshire or Nova Scotia are indistinguishable from ones trapped in Maine. Besides, 60-70% of Maine's lobsters are exported to Canada for processing or live storage; most are then re-exported to the United States, meaning that many “Canadian” lobsters were, in fact, caught in Maine.

Maine lobsters' true distinction lies in the way they are caught. The state's conservation regulations are stricter than those of its competitors, prohibiting the taking of lobsters that are either too young or very big: the latter means they are likely to be particularly old and fecund. Lobstermen also notch the tails of egg-bearing females, and return them to sea to join the protected brood stock. Maine is often cited as one of the industrial world's few examples of a sustainable commercial fishery.

A second group of so-called impostors may not be lobsters at all. In October, Olympia Snowe, one of Maine's two senators, asked the federal Food and Drug Administration to reverse a recent decision to allow the term “langostino lobster” on restaurant menus. The FDA must now decide whether the langostino, a two-inch (5 cm) long crustacean farmed in Chile whose meat costs less than a fifth of what lobster does, is in fact a type of crab (as Ms Snowe argues, a view shared by many marine biologists), or a “squat lobster”, as its dealers prefer to call it, according to colloquial usage but in defiance of strict taxonomy. The MLPC claims Maine lobstermen lost $44m in sales between April and September, largely because Red Lobster and other such restaurant chains have started offering “langostino lobster” dishes. Gastronomes sympathise.

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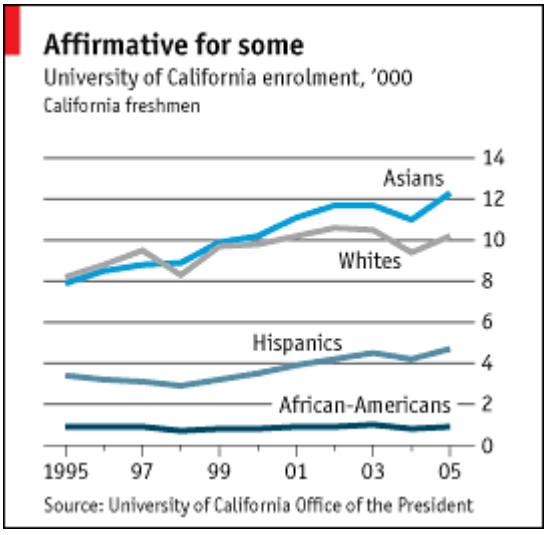
The axing of affirmative action

Unintended consequences

Nov 30th 2006 | LOS ANGELES
From The Economist print edition

What happened when California's universities banned racial preferences?



TEN years ago, Californians banned the state from choosing one race over another. The initiative they voted for, Proposition 209, was broadly (and blandly) phrased. But everybody knew what it meant. The practice of affirmative action, whereby some university applicants were favoured simply because of race or ethnicity, was outlawed, and a long attempt to salve the nation's racial wounds ended.

Washington state's voters went on to ban racial preferences in 1998, Michigan just last month. But what happened in the state that started the trend? Ten years ago, the abolition of affirmative action was widely expected to transform the racial mix of California's top universities and turn them into less diverse places. The first prediction turned out to be right; the second did not.

In 1995, the University of California's eight undergraduate colleges enrolled 945 black students. In 1998, the first year when the colour-blind regime was fully enforced, they enrolled 739—a drop of 22% in a period when the number of new students rose by more than a tenth. In the two most prestigious colleges, Berkeley and UCLA, the number of blacks fell by 47%.

The proportion of black students has never returned to the level of the mid-1990s. But the University of California's campuses have become more diverse anyway. Last year, 15% of newly admitted students were Hispanic and an astonishing 41% were Asian. Whites, who were supposed to benefit most from the demise of affirmative action, comprised 34% of the new intake—a smaller proportion than in 1995, and less than their share of California's high-school graduates.

Asians are packing California's lecture halls partly because they do so well in tests, and partly because they are less welcome elsewhere. Elite universities on the east coast continue to favour black and Hispanic candidates. They also favour the children of donors and alumni, most of whom are white. Last year, 47% of whites and 46% of blacks who were offered a place at the University of California took it up, compared with 65% of Asians.

California's universities are at least providing a route to the upper-middle class for an immigrant group that suffers discrimination in other parts of America. And there are other changes, hard to imagine without Proposition 209, of which they can also be proud.

The decade-ago row over how many fairly successful black 18-year-olds ought to be admitted to the state's top universities was always somewhat beside the point. The real scandal was, and is, the tiny numbers of successful black 18-year-olds. Thanks to strong unions and decades of underfunding, California may rank well above average in teachers' pay: but it is below average on staff-to-student ratios and spending per pupil. Blacks and Hispanics are particularly badly served.

As soon as it became clear that affirmative action would be done away with, the state's public universities began to concentrate their attentions on California's schools. They sent their trainee teachers to some of the most troubled ones, and, by entering into partnerships, nudged them to improve. They offered places to the top 4% of pupils in every school that offered the right courses, regardless of how bad it was, on the ground that those who prevail in bad environments have at least shown gumption.

Ward Connerly, a black businessman who backed Proposition 209, dislikes such outreach efforts, calling them a Trojan horse for racial preferences. But they are much less controversial than affirmative action. And because they are targeted at the least privileged pupils, rather than well-schooled ones who happen not to be white or Asian, they may prove a better way of solving the state's real inequities.

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Lexington

A national party no more?

Nov 30th 2006
From The Economist print edition

The Republicans are in danger of being confined to the South

THREE years ago Zell Miller, then a Democratic senator for Georgia, published an anguished book entitled "A National Party No More: The Conscience of a Conservative Democrat". Today, though, the people who are in that very danger are the Republicans rather than the Democrats.

The Republicans are now engaged in a fierce debate about the meaning of last month's mid-term defeat. Was there anything more to their loss of both chambers of Congress than the six-year itch and an unpopular war? Do they need to press ahead with the conservative agenda or should they revise it? The debate is lively. But it is missing an important aspect: the Zell Miller dimension. Is the Republican Party in danger of shrinking to its southern base? And is it shrinking at exactly the same time that the Democrats are becoming a more national party?

The extent of the southernisation of the Republican Party is astonishing. The party was all but wiped out in its historic base, the north-east. There is now only one Republican in the 22-strong New England House delegation. New Hampshire kicked out its two Republican congressmen (and gave Democrats a majority in both state houses for the first time since 1874). Massachusetts ended 16 years of Republican occupation of the governor's mansion. Rhode Island decapitated Lincoln Chafee despite his moderate record. New York installed Democrats in every statewide office for the first time since 1938.

The Republicans also suffered big losses in a region that voted solidly for Bush in 2004—the Mountain West. Three Republicans lost house seats. Conrad Burns lost his Senate seat in Montana (59% for Bush in 2004). Democrats now control five of the eight governorships in the region, compared with none in 2000.

The only place where the national tide had little impact was in the South. The Democrats made a few inroads in the periphery—winning a Senate seat in Virginia and House seats in North Carolina, Florida and Texas. But deep southern states such as Georgia and Mississippi remained unchanged. Exit polls showed that only 36% of white voters in the South voted for Democratic House candidates; it was 58% in the north-east.

The problem for the Republicans is that a regional stronghold can become a prison. The South has one of the most distinctive cultures in the United States—far more jingoistic than the rest of the country and far

more religious. Fifty-eight per cent of deep southerners identify themselves as either evangelical or born-again compared with a third of non-southerners (the figure in Mississippi is 73%). But for every non-southerner who waxes lyrical about southern charm there are many more who associate the South with racial bigotry and cultural backwardness. The 2006 election—which saw social conservatives such as Rick Santorum and Kenneth Blackwell go down to humiliating defeat—suggests that non-southerners have grown particularly impatient with the South's brand of in-your-face religiosity.

For once Bill Frist, an outgoing Republican senator from Tennessee, has read the runes correctly in announcing this week that he will not run for president. Mr Frist is too deeply associated with pandering to the religious right—particularly over the Terri Schiavo affair—to have a chance of winning nationally. But Mitt Romney, the outgoing governor of Massachusetts, could well be in the process of falling into the trap. Mr Romney thinks the only way that he can persuade the evangelicals who control the southern party to forgive him his Mormonism is to turn himself into a red-blooded social conservative. But the more he does that, the more he alienates people outside the South.

The Republican Party's problems are made worse by the fact that the Democrats have done a good deal to escape from their own Democratic prison. Beyond their gains in the Mountain West, they will be able to display some interesting new faces when the next Congress assembles in January: like Brad Ellsworth of Indiana, who boasts an A-grade from the National Rifle Association, Mike Weaver of Kentucky, who opposes abortion rights, Heath Shuler, of North Carolina, who boasts that he is “pro-business, pro-life and pro-gun”, and Jim Webb of Virginia, who likes nothing better than denouncing the liberal elite.

Still time to rethink

One should be wary of reading too much into the result of a single election—particularly one conducted during the sixth year of a presidency and during a disastrous war. The Democratic leadership is still dominated by bicoastal liberals. The two leading Republican presidential candidates, John McCain and Rudy Giuliani, are from Arizona and New York. Arnold Schwarzenegger won a resounding re-election by taking to the middle. But the Democratic advances were more than just a fluke. Howard Dean, the party chairman, made a point of running a 50-state strategy in 2006. But even before that, the party had worked hard to recruit candidates who looked more like America and less like Harvard Yard: Brian Schweitzer, who was elected governor of Montana in 2004, says that “we don't scare 'em. We are the kind of people who go to church on Sunday, drive a pickup and lower taxes when we can.”

The danger for the Republicans is that they will respond to these Democratic advances by retreating to their heartland. The incoming Republican delegation will be more southern and more conservative than ever. It is hardly encouraging that the Senate Republicans have just reinstalled Mississippi's Trent Lott as one of their leaders—a man who had to give up the top job in 2002 for making a racist remark. There are plenty of Republican activists who think that the future lies in becoming ever more conservative, and not worrying too much about the slow-growing north-east. That sort of thinking led the Democrats to become the Party of Taxachusetts and Michael Dukakis. The Republicans need a Zell Miller of their own.

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Venezuela's presidential election

The Chávez machine rolls on

Nov 30th 2006 | CARACAS
From The Economist print edition

AP

A revived opposition faces a popular president armed with almost limitless oil money and several built-in advantages

Get article background

MATILDE PARRA has every reason to be grateful to Hugo Chávez. She will happily vote for him on December 3rd when the former army officer turned revolutionary socialist hopes to be elected to a further six-year term as Venezuela's president. The co-operative farm near the western city of Barquisimeto Ms Parra belongs to has just received from the government a promised maize-harvesting machine. “He's the best thing in the world, he's really helping the poor,” she says as she buys a red baseball cap adorned with the president's face to match her red *chavista* T-shirt, and heads for Mr Chávez's final campaign rally in the centre of Caracas.

The president, who has been in power since 1999, seems assured of victory. Most opinion polls give him a commanding lead of around 20 points over his only serious rival, Manuel Rosales. Nonetheless, Mr Rosales, the centre-left governor of the western state of Zulia, has done a remarkable job of pulling together the fractious opposition. He has attracted the biggest opposition demonstrations since a recall referendum in August 2004 failed to unseat the president, sparking angry—but never substantiated—claims of vote fraud.

But Mr Chávez has some powerful advantages. He is an instinctive political communicator with an almost magical rapport with his supporters. He is reaping the benefits of a huge oil windfall: although output has fallen, higher prices have quadrupled the value of Venezuela's oil exports since 1998. The economy is growing at 9% a year. Mr Chávez has channelled some of the oil money to social programmes (called “missions”) which provide health care, education and subsidised food in poor areas that were previously neglected by a creaking welfare state.

The president's “Bolivarian Revolution”, named for South America's independence hero, has erased the distinction between himself, the government and the state. Mr Chávez doles out public money in return for political loyalty.

When Ms Parra's group squatted on 240 hectares (590 acres) of canefields belonging to a private sugar-mill, they were helped by the National Guard and the land-reform agency. Since none was a farm-worker, they were given training by one of the government's politically-inspired missions. Credit and machinery followed, albeit slowly: of the 400 squatters only 60 have stuck it out.

The government expects something in return. A bus, paid for out of public funds by the local *chavista* mayor, delivered the co-op's members to Caracas for Mr Chávez's rally. Many government employees—whose total numbers have almost doubled since 1998 to some 2m—were obliged to attend or risk the sack. At the rally a dozen young men on white motorbikes belonging to a provincial police force roared up and down, also dressed in red T-shirts with *chavista* slogans. “We're just following orders,” said one of them.

Mr Chávez promises if he wins to begin a “new phase of the revolution” in which what he calls “21st-century socialism” will be consolidated. This looks as though it would mean more of the same: government help for workers' co-ops and the like, as well as for the missions.

The president will “push forward his project to control society via a form of totalitarianism,” says Teodoro Petkoff, a newspaper editor who gave up his own presidential ambitions to support Mr Rosales. He accuses Mr Chávez of politicising the armed forces, using education as a tool for indoctrination and bringing even sport and culture under state control. Mr Petkoff does not anticipate big surprises, such as the abolition of private property, but he worries about economic mismanagement, inflation and industrial decline.

Mr Rosales has seemingly failed to capitalise on widespread discontent over crime, unemployment and corruption. Venezuelans who vote for Mr Chávez give him credit for a booming economy and the missions. Despite his overarching power, such is their faith in him that they tend to blame others, such as state governors or mayors, for the country's ills.

Until a few months ago, the opposition had not decided whether or not to take part in the election, since it doubted that it would be clean. A minority still believes Mr Chávez can win only by fraud. Many Venezuelans distrust the government-dominated electoral authority. But it has made efforts to accommodate its critics. Mr Rosales's aides say they will be able to detect any manipulation of the vote.

The opposition's biggest fear concerns the use of fingerprint machines in conjunction with electronic voting. Their ostensible purpose is to prevent multiple voting, but they are “neither necessary nor particularly useful”, according to Pedro Nikken of Ojo Electoral, an independent watchdog. Rightly or wrongly, many Venezuelans believe that because of the machines the vote will not be secret.

The government has already made public a list of the several million people who signed the petition calling for the recall referendum, using it to deny jobs and government services to “counter-revolutionaries”. In these circumstances, any belief that the vote might not be secret seems likely to hurt Mr Rosales.

“Our instructions are to vote, or we'll lose our jobs,” said a doctor working for the government's *Barrio Adentro* primary-health-care mission. Asked if that meant voting for Mr Chávez, she said there were “intelligence techniques” that might allow the government to know if she did not.

All the indications are that Mr Chávez does not intend this weekend's election to be his last. He has proposed to hold a referendum in 2010 to abolish a clause in the constitution, which he himself introduced, restricting presidents to two consecutive six-year terms. It appears that the opposition will be tolerated, so long as it does not threaten to take power. “There is no room in Venezuela for any project other than the Bolivarian revolution,” Mr Chávez told the rally.

However, even many of his own supporters do not want a lifetime president in the mould of his friend, Cuba's Fidel Castro. “If he wants to set up a dictatorship like in Cuba the people themselves won't let him,” said Fermi González, a mechanic who says he will vote for Mr Chávez. But as long as the oil money lasts, the president will be hard to defeat.

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Ecuador

A mandate for change

Nov 30th 2006 | QUITO
From The Economist print edition

Rafael Correa won his country's presidential election by moving to the centre. Which way will he go now?

Reuters

Get article background

Late-blooming Correa

RARELY has a politician risen so fast. Until 19 months ago, Rafael Correa was an obscure economics professor. After a four-month stint as finance minister he launched a presidential campaign on a platform of radical change and with an improvised party. For months he lurked at the bottom of the opinion polls. On November 26th he won the presidency: with all but the votes of Ecuadoreans abroad counted, he was ahead by a thumping 14 percentage points. To complete his four-year term in a country that has toppled three presidents in the past decade would be equally remarkable.

Mr Correa, who calls himself a Christian leftist, began his ascent by posing as an Ecuadorean version of Venezuela's populist strongman, Hugo Chávez, with whom he claims friendship. He baited the United States, rejecting a free-trade treaty and promising to shut down an American base at Manta used for anti-drug flights. He threatened to default on Ecuador's foreign debt and promised to spend more of its oil revenue on the poor. Above all, he vowed to throw out the country's corrupt traditional politicians by summoning a constituent assembly to rewrite the constitution.

After finishing behind Álvaro Noboa, a banana magnate, in the first round of voting on October 15th, Mr Correa changed his tone. Gone were the mockery of George Bush and the suggestion that Mr Chávez would be anything more than a friend. The threat to default was qualified with ifs and buts. Mr Correa redoubled his promise to keep the American dollar as Ecuador's currency, although he loathes it.

Mr Noboa, a Bible-wielding billionaire, helped Mr Correa by running an awful campaign. Its low point came when the names of voters who had signed up for the 1.2m new houses he promised were found in the rubbish.

The result may stoke Ecuador's chronic conflict of powers. Mr Correa fielded no candidates for Congress. Traditional parties such as the Social Christians were weakened but their place has been taken by forces hardly more congenial to Mr Correa, including those of Mr Noboa.

On taking office on January 15th Mr Correa plans to call a referendum on convening the constituent assembly. This would have the power to dissolve Congress and sack the president. Its main business, though, would be to reform Ecuador's institutions, for example by freeing the courts from political manipulation and requiring parties to hold primaries.

Congress itself could probably be bullied into making these changes. But the real purpose of the constituent assembly is to transfer power to a new breed. “The basic obsession is how do you get the old crocodiles out of the picture legitimately,” says Fernando Bustamante of Quito's San Francisco university.

Past confrontations between Congress and the president have ended with the latter sprinting for exile while the army looks on. Mr Correa “has to negotiate” with Congress, says Hugo Barber of Datanálisis, a polling firm. In victory, he has sounded conciliatory. He denies that he wants to dissolve Congress. He has offered talks with Lucio Gutiérrez, a deposed former president whose party will be the second-largest in Congress. Compromise risks provoking Mr Correa's left-wing backers. “He can't negotiate with

whores," says one. But he can use the size of his mandate to preach the virtues of the assembly.

Economic change seems less pressing than political renewal. Ecuador has weathered political turmoil largely because the adoption of the dollar in 2000 and high oil prices have brought growth and stability. The new government has no wish to jeopardise this. It plans to promote non-oil industry and jobs "with equity and profound fiscal responsibility", says Fander Falconí, an adviser to Mr Correa. Private investment will play a "fundamental role".

Maybe. Mr Correa trained as an economist at Belgium's Louvain university as well as at the University of Illinois. He has a record of preferring state spending, which has been rising at 16% a year since 2001, to private initiative. As finance minister, he wound up a fund that set aside some oil revenue for buying back debt. Ecuador has twice defaulted on its debts in the past 25 years, but can now easily afford to service them. Mr Correa's talk of further "restructuring" caused the price of Ecuador's bonds to crash this week.

Mr Correa also says that the state will sharply raise its share of the oil extracted by energy companies. As long as oil prices remain buoyant, economic heterodoxy may do little visible damage. But a slump could lead to debt default and a messy exit from dollarisation. Unless Mr Correa proves to be as astute as president as he was as candidate he risks descending as fast as he has risen.

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Canada (1)

Nation bidding

Nov 30th 2006 | MONTREAL
From The Economist print edition

Gamesmanship over Quebec's status

WHAT makes a nation? If it means a people with a common language and history then French-speaking Quebec clearly qualifies. Over the past 40 years, some Quebeckers have insisted that their status as a nation can only be properly expressed in a separate country. The rest of Canada disagrees, but has tied itself in knots trying to find formulae to accommodate Quebec's distinctness.

The latest attempt came this week, the unexpected result of some complicated political manoeuvring ahead of a probable federal election in the spring. This began when Michael Ignatieff, who hopes to be chosen as the new leader of the opposition Liberals at a four-day party convention that started on November 29th, said that Quebec was indeed a nation. He was promptly criticised by rivals for re-opening a divisive constitutional debate. Seeking to capitalise on such divisions, Gilles Duceppe, the leader of the pro-independence Bloc Québécois, then announced that he would ask the House of Commons to recognise Quebeckers as a nation.

Stephen Harper, Canada's Conservative prime minister, sniffed an opportunity. He turned the Bloc's motion into one of his own by adding the crucial phrase “within a united Canada”. On November 27th this was passed with 266 votes and all-party support. Only 15 Liberals and one independent voted against. Having angrily pledged to vote against their hijacked motion, the Bloc thought better of it and backtracked. *L'arroseur arrosé* (“the sprayer gets sprayed”) was how several Quebec papers described the Bloc's plight. The discomfiture of the separatists, if it lasts, will cheer Jean Charest, Quebec's Liberal premier, who is likely to call a provincial election in the spring.

Mr Harper lost his minister for inter-governmental affairs over the affair: Michael Chong, who is of Chinese and Dutch descent, said that the motion favoured ethnic nationalism over multiculturalism. But Mr Harper will hope that his skilful gamesmanship wins him votes in Quebec. His hopes of turning his government's parliamentary minority into a majority at the next election turn in large part on increasing his party's current tally of ten of the province's 75 seats.

Quebeckers tend to be socially liberal, green and pacifist. Mr Harper has alienated many of them with his opposition to gay marriage and the Kyoto protocol on greenhouse-gas emissions, and his support for the deployment of Canadian troops in Afghanistan. Albeit merely symbolically, he has begun to make amends.

What is not clear is whether this week's vote will have any further consequences. Quebec never signed Canada's 1982 constitution. After a referendum on independence narrowly failed in the province in 1995, Canada's Parliament passed a similar motion recognising Quebec as a “distinct society”. Mr Harper has always opposed enshrining this in the constitution. But he does support further limits on federal powers and greater provincial autonomy. Far from settling the debate on Quebec, he may have restarted it.

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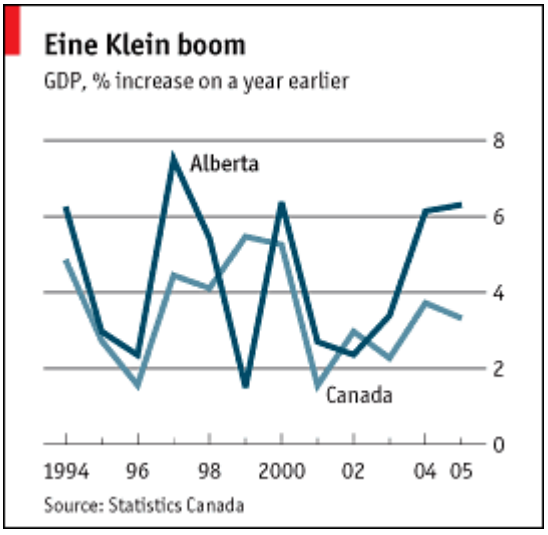
Canada (2)

After Klein

Nov 30th 2006 | VANCOUVER
From The Economist print edition

New priorities in a booming province



FOR the past 13 years the politics of Alberta have been dominated by the rumpled, plain-speaking figure of Ralph Klein. He led his prairie province from hard times to oil-soaked affluence, earning the sobriquet “King Ralph”. But last April, the king announced that he would abdicate by the end of this year. His Alberta Progressive Conservative Party is finding it hard to decide who should replace him. That in turn may reflect a wider desire for a change of direction in the province.

Mr Klein took office in 1992 with a simple mission: to restore Alberta to prosperity by cutting government spending and eliminating whopping deficits and debts. He succeeded, at first by taking an axe to spending programmes and in recent years with the help of gushing revenues from the oil and gas industry.

Alberta is now the only debt-free province in Canada. It has also become the country's economic dynamo, as money and migrants pour in to work the vast oil sands in the frozen north of the province (see chart). Unemployment stands at a mere 3%, the provincial treasury is overflowing and this year Mr Klein even gave every adult resident a “prosperity cheque” of C$400 ($350) as a parting gift.

Inevitably, however, the dizzying pace of growth has started to throw up problems such as crowded highways, schools and hospitals as well as crime and a housing shortage. All of the eight candidates to succeed Mr Klein as Conservative leader stressed that they had “a plan”, in contrast to the king's seat-of-the-pants approach.

Because no candidate won the required outright majority in a first ballot, the party's members will brave the freezing weather again on December 2nd and choose between three men. Jim Dinning, long the front-runner, managed only 30% of the vote. A former provincial finance minister, he favours moderate increases in public spending on education and health and higher taxes on the oil industry.

Ted Morton (26%), a political scientist at the University of Calgary, is a backbencher in the provincial assembly from the Alberta-first, social-conservative wing of the party. He wants the province to create its own police force and pension plan as well as a mixed public-private health-care system in place of Canada's state-financed health service. The dark horse is Ed Stelmach, a quiet farmer, who wants more farm subsidies and public health care, and who has picked up the support of several also-rans.

The real winner may be the opposition Liberals. At the last provincial election in 2004, the Conservatives lost 200,000 votes while the Liberals more than doubled their seats in the legislature. Back then, moreover, the Liberals held power in the federal government in Ottawa, so voting Conservative in Alberta was a form of protest. Now it is the Conservatives who hold federal power. At the next election, likely to be held in 2008, the Liberals will hope that in their new mood Albertans will say thank-you and goodnight not just to the Klein era but to his party too.

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Malaysia

Putting the malaise into Malaysia

Nov 30th 2006 | KUALA LUMPUR
From The Economist print edition

As the country approaches its 50th birthday, racial and religious tensions are jeopardising its economic and social success

Get article background

UPROAR is still raging in Malaysia over inflammatory speeches at the annual congress of the ruling United Malays National Organisation (UMNO) in mid-November. One delegate talked of being ready to “bathe in blood” to defend the race and religion of the Malay Muslim majority against the ethnic Chinese and Indian minorities. The education minister, no less, brandished a *keris* (traditional dagger), only to be urged by another delegate to start using it. The affair has brought into focus Malaysians' worries that, as their country nears its 50th birthday next year, its remarkable economic and social success is at risk from the increasingly separate lives its three main races are living.

Last weekend these anxieties were voiced by the crown prince of Perak, one of the country's constituent states. He recalled that in his boyhood the races mixed far more freely; nowadays most children go to single-race schools. The prince regretted that some Malay-majority schools have made girls wear headscarves and even told pupils to avoid non-Malays' homes. Malaysians' spirit of give-and-take, he lamented, had been replaced by the idea that progress was a zero-sum game among the races.

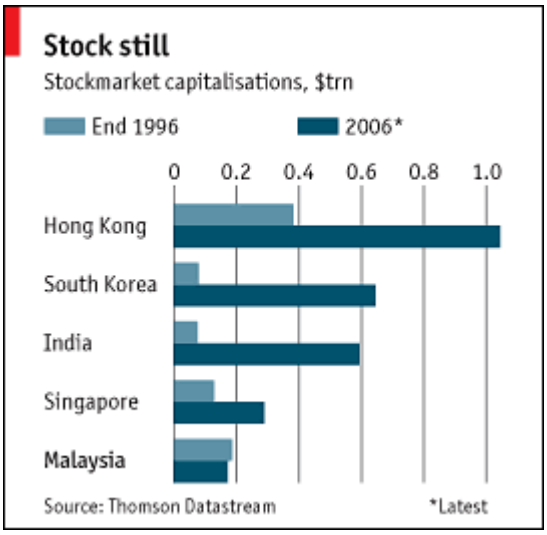
Apart from some deadly riots in 1969, the country has so far done remarkably well in handling the awkward racial mix it inherited when the Malaysian peninsula gained independence from Britain in 1957 (Britain's colonies on Borneo joined the union later). The Chinese, now around a quarter of the population, arrived in colonial times to work the country's tin mines. The Indians, now around one-tenth, mainly came to work on plantations. Neither group intended to stay forever but many did. The Malays' fears of being marginalised in their own land grew as the Chinese came to dominate business and the Indians the professions.

At independence, a “social contract” was struck in which the Indians and Chinese got citizenship while the indigenous peoples received privileged access to state jobs and education. After the 1969 riots, a far-reaching positive-discrimination policy was introduced, with the aim of increasing the indigenous groups' share of business ownership from just 4% to 30%.

Supporters of this policy say it has kept the peace, enabling Malaysia to achieve impressive economic growth. Opponents say it has widened the divide between rich UMNO wheeler-dealers and their less fortunate Malay brethren. UMNO itself, having led the country's development for decades, has become

perhaps its greatest handicap. The Malay chauvinism and economic nationalism in its ranks are hobbling progress towards reforming and privatising the big government-linked companies, thereby discouraging both domestic and foreign private investment. The fate of Proton, a carmaker (see article) is emblematic: the government has dithered for months over whether to risk UMNO's ire by selling it to a foreign buyer.

Once an emerging Asian champion, Malaysia is slipping down the league. Its stockmarket is falling behind its rivals (see chart). Last year, foreign direct investment was worth only $4 billion, down from $4.6 billion in 2004. Despite having a big base in Malaysia, Intel is putting its new chipmaking plant in Vietnam. A key test of whether the government can boost investment, says Vince Leusner of the American Malaysian Chamber of Commerce, will be agreement on a free-trade pact it is negotiating with America. Concessions will be needed on such tricky issues as letting foreign firms bid for government contracts. To win greater access to the American market—Malaysia's largest—the prime minister, Abdullah Badawi, must brave the wrath of his UMNO backbenchers.



Nor Mohamed Yakcop, the deputy finance minister, points out that the government has a good record on delivering economic reforms—such as last year's loosening of the ringgit's peg to the dollar—despite political noise. But with Vietnam, China and India competing harder for investment, Malaysia has to build on its strengths as a relatively advanced, liberal country and seek more high-technology and creative businesses. Such businesses need talented people—and the widening ethnic and religious gap is encouraging a brain drain, says Azmi Sharom, a law lecturer at the University of Malaya.

Although a national discussion is plainly needed on how to renew Malaysia's social contract and stop its races growing further apart, Mr Badawi has so far tried to close down this debate. He rejected proposals to create an “inter-faith council” and has told Article 11, a group named after the constitutional clause guaranteeing religious freedom, to stop organising public discussions. Malik Imtiaz Sarwar, a Muslim lawyer and leader of Article 11, says that UMNO leaders feel compelled to emit fiery religious rhetoric to outflank PAS, an Islamist opposition party.

Mohamed Jawhar Hassan, the head of ISIS, a think-tank, says that Malays' desire for more overt expression of their Islamic faith, and Chinese and Indian parents' desire to educate their children separately, are “social forces, much more powerful than any government”. Passing laws may not be enough to stem the drifting apart of the races. But there are few other ideas on how to preserve social harmony and prosperity, two huge achievements of which any country turning 50 could be proud.

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The oil-for-food scandal

Australians Who Bribe

Nov 30th 2006 | SYDNEY
From The Economist print edition

Sanctions busting? The government is shocked, shocked

WHEN AWB, the company responsible for selling Australia's wheat, was accused last year of having paid illegal kickbacks to Saddam Hussein's regime in Iraq, Australia's conservative coalition government, led by John Howard, was embarrassed. The prime minister likes to trumpet Australia's credentials as a free and fair trader, especially over agriculture. Moreover, he was one of the first leaders to commit troops to the American-led invasion of Iraq in 2003. Late last year Mr Howard set up an inquiry into the scandal. Its report on November 27th paints a grim picture of how AWB flouted United Nations sanctions. But, in Mr Howard's eyes at least, it clears his government.

Terence Cole, a former judge, conducted the inquiry into an allegation contained in a report by a UN committee led by Paul Volcker. The report claimed that between 1999 and 2003, AWB paid over $221m to Alia, a Jordanian haulage company, ostensibly to distribute its wheat in Iraq. In fact, the money was going to the government.

AP

Howard, and a passing shadow

Mr Cole concludes in his report that AWB was indeed involved in “a sham” designed to deceive the UN and retain its Iraqi sales. The consequences, he says, have been “immense”. Australia has since lost more than $385m-worth of trade a year with Iraq. AWB faces lawsuits in Australia and maybe America, where rival wheat farmers are crying foul. Worse, “AWB has cast a shadow over Australia's reputation in international trade.”

Iraq was one of Australia's most lucrative wheat markets, taking one-tenth of exports by 1999. From then to 2003, AWB sold Iraq wheat worth more than $2.3 billion. AWB used to be the government-administered Australian Wheat Board; it retains the old board's monopoly as Australia's wheat seller. Mr Cole argued the monopoly had bred “a closed culture of superiority and impregnability”, where “no one asked, ‘What is the right thing to do?’” Mr Howard now says the status of AWB's monopoly will have to change, but he has not suggested how.

Mr Cole found that 11 former AWB executives might be liable for prosecution. But he found no evidence that ministers or civil servants knew about the kickbacks. The opposition Labor Party accuses Mr Howard of having given Mr Cole narrow terms of reference—whether Australian companies had broken the law—to shield his government from any political fallout.

Even if that is true, he may not have succeeded. The government that presided over the debacle, and counts farmers among its core voters, seems to have asked few questions. Australia's Department of Foreign Affairs and Trade was hardly rigorous in probing reports that AWB was engaged in sanctions busting. According to Mr Cole its response was limited to seeking AWB's assurance that it was doing nothing wrong. That may not have been enough to spare Mr Howard's blushes.

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Afghanistan

Mission plausible

Nov 30th 2006 | RIGA
From The Economist print edition

NATO's leaders promise victory. But many are still holding back

“THE Taliban are not ten feet tall,” says General Jim Jones, NATO's supreme commander, himself a burly officer who towers above most ordinary men. They cannot defeat NATO's troops in Afghanistan, says the general. But he worries that the insurgents could sap the allies' political will in a long war of attrition or, as he put it, “death by a thousand IEDs” (improvised explosive devices).

So when the leaders of the 26 NATO countries met in Latvia on November 28th-29th, General Jones and other alliance officials had to perform a delicate balancing act: to convince allies that things in Afghanistan were serious enough to merit a serious commitment of resources and more troops able to fight, but not so hopeless as to think that soldiers were being sent there only to die.

“Afghanistan is mission possible,” said the NATO secretary-general, Jaap de Hoop Scheffer. In public, he talked up the positive change in the country since the removal of the Taliban in 2001: it has elected leaders and a constitution that protects human rights. Ten times as many Afghans have access to health care; there has been a sixfold rise in those going to school; and GDP, excluding drugs (see article), has tripled.

Behind closed doors, however, there was less congratulation than recrimination. The summit divided between “fighters” and “non-fighters”. Countries such as America, Britain, Canada, Poland and the Baltic states demanded that the others—mainly France, Germany, Italy and Spain—remove the restrictions (known as “caveats”) that stop their soldiers moving from the relatively quiet north and west to help allies in the south and east, where most of the fighting is taking place.

The pressure had only a modest impact. General Jones said some of the 50-odd caveats had been removed, freeing up an extra 2,000 troops for serious fighting. Mr de Hoop Scheffer won a promise from each country that their forces would be ready to assist others “*in extremis*”—though what constitutes extreme peril, and who decides, are still not clear. NATO is still about 10% short of the soldiers it says it needs in Afghanistan. But with fresh contingents from Poland and America arriving early next year (with no caveats), NATO's need for troops may matter less than the context in which they operate.

The summiteers in Riga agreed to pursue a French idea to create a Balkans-style “contact group” to co-ordinate policy on Afghanistan. Its composition may be tricky, however. It is vital for Pakistan, used by the Taliban as a rear base, to be a member. But Iran also shares a border with Afghanistan. Some Western diplomats claim that Iran's Revolutionary Guards have lately begun to help the Taliban. The idea of American and Iranian officials sitting together on such a group will horrify ideologues in both their capitals.

At the same time NATO is looking for an authoritative “special representative” for Afghanistan to oversee policy and ensure that military operations are better co-ordinated with civilian reconstruction. A good idea, except that nobody could think of a suitable candidate. The Taliban may not be giants, but in Riga this week NATO was not standing conspicuously tall.

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Myanmar

Red Cross does not mark the spot

Nov 30th 2006
From The Economist print edition

A reclusive junta burns one of its last bridges to civilisation

Get article background

THE International Committee of the Red Cross (ICRC) operates in many of the world's most dangerous and unpleasant places, from Afghanistan to Guantánamo Bay. Jealously guarding its reputation for discretion and impartiality, it manages to work with the least tractable governments.

But not Myanmar's. This week the ICRC announced that the ruling junta last month ordered it to close its five field offices in the country. This, said the ICRC, made its work in conflict-ridden border areas impossible. The generals had also blocked the resumption of its visits to detainees, suspended last December.

EPA

A rare glimpse of the lady

Last year the organisation paid individual visits to more than 3,000 prisoners in 55 places. It has also been providing aid—food, medicines, help with sanitation and so on—to villages on the border. Its work now has shrunk to the rehabilitation of amputees, and even that is in jeopardy.

The junta's rejection of the ICRC is bad news for hopes that it can be engaged in any serious dialogue about reform. If it cannot tolerate the scrupulously apolitical ICRC, it seems improbable that it will accept any form of international intervention, advice or mediation.

Yet earlier this month, a senior United Nations official, Ibrahim Gambari, visited Myanmar, and was allowed to see Aung San Suu Kyi, the opposition leader, who is under house arrest. In an earlier period of detention, in 1990, Miss Suu Kyi led her party to a crushing electoral victory, which has never been honoured. So it is natural that foreign dignitaries should want to see her. The granting of access did seem a small sop to international opinion. Yet by then the junta in Myanmar had already given the ICRC its marching orders.

It seems to want to move even deeper into isolation. Last year it shifted Myanmar's capital from the port of Yangon to Naypyidaw, in a remote mountainous region. Groping for an explanation, analysts could not find a rational one: either the generals feared American invasion, or the move was their fortune-teller's idea.

This week Mr Gambari reported back to the United Nations Security Council. Afterwards John Bolton, America's UN ambassador, said that his government would seek a council resolution on Myanmar, which he and Miss Suu Kyi still call Burma. This would focus on those elements in its policies that “threaten stability in the region and more broadly”. There are plenty of those: its displacement of perhaps 1m people, for example; and its conniving at heroin production.

But China and Russia are likely to argue that Myanmar's troubles are “internal”, and that the new resolution would, like so many efforts to change the country, achieve nothing. This argument over how to reform the junta has simmered for two decades. Some Western governments have advocated isolating the country in the hope of forcing better behaviour. Myanmar's South-East Asian neighbours, as well as India and China, have tried—and profited from—“engagement”. In the gap between these two approaches, the junta finds enough space to breathe.

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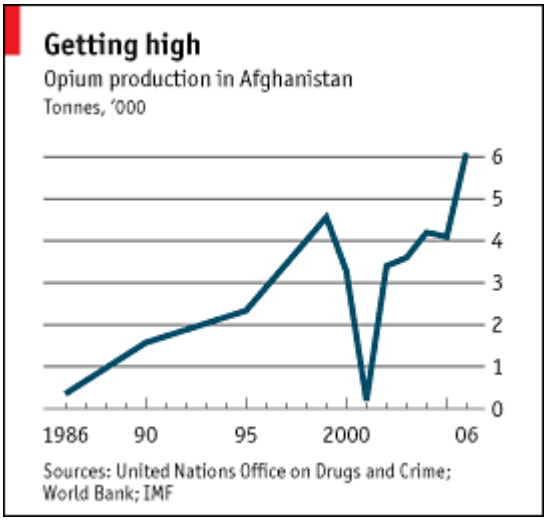
Afghanistan's poppies

A big habit

Nov 30th 2006
From The Economist print edition

Heroin dominates Afghanistan's economy

ONE grudging tribute sometimes paid the Taliban is that the brutal fundamentalists did at least curb Afghanistan's enormous poppy crop. However, a report* published this week points to evidence that the Taliban's nearly total ban on opium production in 2000-01 (see chart) "carried the seeds of its own lack of sustainability". The conclusion highlights just how difficult opium-eradication will be.



During the ban farmers found themselves deep in opium-related debt. This forced them to replant the crop as soon as it was safe to do so. In the meantime, the ban weakened the Taliban's political standing. Certainly, opium production has soared since their overthrow, with this year's showing a 49% increase over 2005, and providing 92% of world supply. As a result, the economy is hopelessly hooked on heroin.

"Opium GDP" is estimated at 27% of the total economy (ie, including drugs) and 36% of "licit GDP". The report argues that, along with aid inflows, this is causing "Dutch disease", pushing up the exchange rate and other prices, making the non-opium economy uncompetitive.

So opium has a huge effect on the rest of the economy. A corollary is that eradicating it would have a devastating impact unless accompanied by decades of development. A simulation of an interdiction campaign starting now suggests that by 2010 real total GDP would have fallen by 10.7%, and "licit GDP" would not have grown at all.

* "Afghanistan's Drug Industry: Structure, Functioning, Dynamics and Implications for Counter-Narcotics Policy", The United Nations Office on Drugs and Crime and the World Bank

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India's Muslims

Don't blame it on the scriptures

Nov 30th 2006 | DELHI AND DEOBAND, UTTAR PRADESH
From The Economist print edition

Why India's 150m Muslims are missing out on the country's rise

GEORGE BUSH likes to point out that India has a vast Muslim population—the world's second-largest after Indonesia—yet not a single al-Qaeda member. Even if this is true, it is far from the only measure of well-being. According to more conventional ones, India's Muslims are faring terribly. They are disproportionately likely to be in prison, unemployed, illiterate and poor. India's economy is growing fast, but the gap between Muslims and other religious groups is widening. Headlines refer to Muslims as the new *dalits*—the group, once known as "untouchables", at the bottom of the Hindu-caste heap.

That Muslims are lagging has been known for a while. But discussing why, or what to do about it, has been taboo in a country proud of its peculiarly religious brand of secularism. Mohammad Hamid Ansari, chairman of the National Commission for Minorities, says that his organisation ritually files an annual report showing how poorly India's Muslims are doing. Each year it somehow gets lost on its way to parliament.

Reuters

A lot to be grumpy about

That is why what is known as the Sachar report, after the former chief justice who chaired a government-appointed committee to investigate the condition of India's Muslims, is creating so much heat. And why it was tabled in parliament only on November 30th, weeks after it was finished and presented to the prime minister.

India's non-Muslims sometimes suggest that the troubles of their neighbours in prayer hats are self-inflicted: obscurantist *imams* who equate education with the rote-learning of the *hadith*, sayings attributed to the Prophet; four-wived husbands with more children than they can feed; and a lack of drive to better themselves, perhaps brought on by a nagging feeling that they would rather be in Muslim Pakistan. None of this is true; the last accusation is particularly unfair.

Madrassas such as the Darul-Uloom in Deoband, Uttar Pradesh, which proudly boasts of a curriculum largely unchanged since 1866, hardly equip their students to face the future, but only 3% of Muslim children attend them. Nor is it clear that the rulings of the orthodox, on anything from the evils of television to matters of family law, are obeyed. On polygamy, the most recent study (which is 30 years old) suggests that Muslim men are less likely than members of India's other religions to have a harem. And hardly any Indian Muslims hanker after life in Pakistan.

The problems faced by Muslims are in fact more prosaic. Not enough of them have jobs and too few can read or write. This is not new. But according to Abusaleh Shariff, an economist who compiled much of the data in the Sachar report, there are two areas where the gap between Muslims and the rest has widened dramatically over the past ten years or so. He says that both literacy rates for Muslim girls and poverty rates among urban Muslims show something close to a worsening even in absolute terms.

Part of the explanation for this phenomenon lies in where India's Muslims live. First, they often occupy the old parts of big cities like Delhi, not the fast-growing new suburbs where wealth is created and spent. Or they live in the slums. As a result, measured by monthly expenditure, over 40% of Muslims living in cities fall into the poorest quintile of the population, compared with 22% of Hindus.

Second, despite large Muslim populations in southern and western states such as Kerala, there are far more Muslims in the north and east of the country, which is poorer and less well governed. That in turn

has an effect on their schooling. In rural Uttar Pradesh, India's most populous state and home to about one-fifth of its Muslims, only 30% of small towns have a primary school. For every kilometre a girl is from a school, her chances of attending it fall. In Kerala, where schooling is more plentiful, Muslim girls do well.

Poor schooling explains another of the report's findings, which is that Muslims fail to get jobs with the country's largest employer—the government. Some of this is plain discrimination, particularly where the more menial types of government work are concerned. But entry into the highest levels of government service is meritocratic, judged on exam papers written by anonymous students. The problem here is rather that too few Muslim students stay at school long enough to sit the exams.

Too easily appeased

For the government of Manmohan Singh, the findings of the report offer a temptation. Indian politicians are fond of using quotas for minorities in everything from jobs to education to secure their political support. With the approach of a state election in Uttar Pradesh, due in the next few months, this will become more and more attractive. This would give the main opposition Bharatiya Janata Party yet another opportunity to accuse the government of pandering to minorities, especially Muslims. And the Supreme Court, which is so vigorous it sometimes seems to be running the country on its own, might object too, since India's constitution prohibits discrimination on religious grounds.

Many Muslims argue that they are better off helping themselves, rather than holding out for the government. In fact they often seem to fare worse where they have more political clout, which easily translates into unreliable token promises, for, say, an increase in the number of teachers literate in Urdu, the language of Indian Islam. The leaked figures on government jobs show that Muslims do better in Gujarat, scene of an anti-Muslim pogrom in 2002, than in Bihar, where governments depend on their votes.

“Muslims do well in education where the initiative rests with them,” says Mushirul Hasan, vice-chancellor of Jamia Milia Islamia University in Delhi. “Where they are dependent on government patronage they fare badly.” Muslim educational societies have begun to improve education in Kerala and the booming southern cities of Bengalooru (Bangalore) and Chennai (Madras). More are needed if Muslims are not to fall further behind as India prospers.

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Ethiopia and Somalia

The rumbling rumours of war

Nov 30th 2006 | NAIROBI
From The Economist print edition

Only the onset of floods seems, for the moment, to have put off all-out fighting

AFP

Get article background

FIGHTERS loyal to Somalia's Islamic courts last week took positions along the border with Ethiopia; this week they pushed further north than ever before, consolidating their grip on Bandiradley (see map). Tinny loudspeakers in Somali towns under Islamist control blared out holy war against Ethiopia. Those on the front line professed themselves ready to die fighting the “forces of the devil”—Ethiopia, that is. Businessmen in Mogadishu, Somalia's capital, were told to hand over their weapons for the cause; many did. Intelligence sources say the Islamists are still getting more arms from their allies, especially Eritrea, which may now have 2,000 of its own soldiers inside Somalia.

Meanwhile, 6,000-plus Ethiopian troops continue to mass on their own side of the border, with some commando, infantry and air force units already inside Somalia. A convoy of around 130 Ethiopian military

lorries got past Islamist positions last week to reach the central Somali town of Baidoa, seat of Somalia's internationally recognised but powerless transitional government. Locals said the many Ethiopian troops in the town were busy digging trenches. Skirmishes, mostly won by Islamists, are taking place across the country every day. Ethiopia would probably overrun the Islamist positions in a conventional war. The question is whether Ethiopia's prime minister, Meles Zenawi, will order his army to attack Mogadishu.

He may not yet have decided. The situation is fluid. As many as ten countries have already broken the UN's arms embargo by running guns into Somalia, each with its own interests. Some back the transitional government because it is secular. Others prefer the Islamic courts' theocratic agenda. Still others base their calculations on the politics of the Nile and its waters.

Ethiopia still denies it has troops in Somalia, though it now admits it has “military trainers” there. Mr Zenawi says Ethiopia does not need a green light from anybody to fight the Islamists, but promises war only if all peace talks fail. But those look unlikely to succeed. A UN Security Council resolution, tabled by the Americans, this week called for peacekeepers to be sent to Somalia. Ethiopia endorsed the idea. But nobody knows how UN troops would get there, where they would come from, or what they would do.

The Americans seem to hope against hope that the longer the present fragile peace holds, albeit punctuated by fighting here and there, the weaker and more divided the Islamists will become. So far, on the contrary, they have continued to gain ground. A measure of the Islamists' burgeoning authority is that they have even managed to ban the chewing of *qat*, a local stimulant, whose price has consequently risen sixfold. The semi-autonomous northern region of Puntland, which had hitherto co-operated with the transitional government, is apparently close to adopting *sharia* law: a sign that it is loth to resist the approaching Islamists.

Ethiopia is understandably rattled by the rise of the Islamists next door. Unchecked, they could break Ethiopia apart. They could sponsor terrorist attacks in Addis Ababa, Ethiopia's capital, and other towns, support Ethiopia's various armed separatist groups and poison relations between Ethiopia's Muslims and Christians.

A small grouping of jihadists in Mogadishu is bent on obeying Osama bin Laden, who has lauded them in taped messages this year, and on turning the Horn of Africa into a third jihadist front, after Iraq and Afghanistan. Somalia's Islamist leaders deny this but still claim a slice of Ethiopia. Their agenda calls for an Islamist emirate of greater Somalia, taking in eastern Ethiopia's vast Ogaden region as well as north-eastern bits of Kenya.

The spectre of a hostile Christian Ethiopia bearing down on Somalia has rallied Somalis behind the Islamists. Somalia's Islamists have spread a similar fear among Ethiopians, giving succour to Mr Zenawi's unpopular and isolated government.

Though he has alleviated poverty a tad and improved the country's infrastructure, Mr Zenawi has turned Ethiopia into a police state. Many of the opposition are in prison on trumped-up charges carrying the death penalty. Tens of thousands of young Ethiopians were sent to prison camps after last year's poll. A few still languish there; others have fled abroad. Several judges have defected, fearing for their safety.

The press has been crushed, foreign correspondents expelled and many journalists and editors put in jail. The government has hired foreign specialists to help it shut down dissident websites, tap telephones and track e-mails. Among foreign governments, China has become an ally.

Most tellingly, morale in Ethiopia's army is low. Several generals, along with their men, have hiked over the mountains into neighbouring Eritrea to join the Oromo Liberation Front, a southern separatist group that wants to bring down Mr Zenawi's lot.

Remember the last intervention

The United States, mindful of its disastrous experience of peacemaking in the region in 1993, has mixed feelings. Congress has excoriated Mr Zenawi's human-rights record. But others in Washington have backed him, despite his abuses, in the name of the war on terror—ie, against the Somali Islamists. American military intelligence now works closely with Ethiopia, sometimes taking up whole floors of hotels in Addis Ababa. But experts in the region question the reliability of American intelligence.

The European Union is against America's plan to send UN peacekeepers to the region and, by the by, is sceptical of recent American warnings that Somali jihadists have been planning suicide attacks on Kenya's capital, Nairobi. America's reluctance to encourage negotiation with the Somali Islamists suggests it may want to provoke, isolate and defeat them by force, with Ethiopia providing the muscle.

So war is in the offing—but is unlikely to break out immediately. Unusually heavy rains have turned the roads to mud. The two sides are bogged down in and around the strategic Somali town of Burhakaba. The UN reckons that 1.8m people in all countries of the Horn of Africa have been hit by floods, with no foreign agencies able to distribute food and medicine; nearly all aid workers left months ago after a rash of killings, including that of an Italian nun.

While the rains persist, all-out fighting should be put off. But that may provide only a brief hiatus for foreign peacemakers to stop the two countries going to war.

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Egypt

The president digs in, yet again

Nov 30th 2006 | CAIRO
From The Economist print edition

Hosni Mubarak's latest proposals for reform are, as usual, less than they seem

JUST before a state visit to Russia in October, Egypt's president, Hosni Mubarak, landed Vladimir Putin in a pickle. Interviewed by a Russian newspaper, he suggested that Mr Putin should override the constitution and remain Russia's president for a third term. “Let him stay. Russia needs Putin,” argued Mr Mubarak, dismissing term limits as an American tradition ill-suited to Russia's and Egypt's systems.

“Egypt needs Mubarak” was the message that echoed loudest in his recent annual address to Egypt's parliament. “I will carry on with you, crossing to the future, shouldering the responsibility, as long as my heart is beating and I'm breathing,” Mr Mubarak declared, drawing a standing ovation from the four-fifths of the audience that came from his own National Democratic Party (NDP).

What happens when his heart stops beating? Mr Mubarak, aged 78 and now into his fifth six-year term, likes to cultivate ambiguity about his own succession. Rumours of his failing health have prompted Cairo's chattering classes to devise various scenarios. The most popular is that his son Gamal, a smooth strongman in the ruling party, takes over either in a managed transition or as the shoo-in candidate at the next election—something both father and son deny. Others think the next president will again be a military man, possibly General Omar Suleiman, Egypt's chief spy.

What is unlikely, despite the reforms outlined in Mr Mubarak's speech, is a truly fair election. Among the changes he suggested are replacing Egypt's draconian emergency law, in place since Mr Mubarak assumed power in 1981, with anti-terror legislation that would grant police similar sweeping powers. He also proposed altering Egypt's 1971 constitution, a peculiar rule book that grants regal powers to the executive, defines rampantly capitalist Egypt as a socialist country, and theoretically grants half of parliament's seats to “workers and peasants”.

Mr Mubarak specifically spoke of advancing the process, started last year, that allows for direct, multi-candidate presidential elections, by altering a rule whereby parties must control 5% of parliamentary seats in order to present a candidate for president. Very nice, say his critics, but that rule has to go in any case, because of the embarrassing fact that no legal opposition party presently reaches that 5% threshold. Islamist MPs from the Muslim Brotherhood did overcome widespread fraud to win nearly a fifth of seats in last year's general election, but since the group remains legally banned, they had to run as independents, so do not count. Few among the nearly 20 other opposition parties are considered even remotely serious.

Mr Mubarak's critics say that changing the 5% rule is not nearly enough to stop the system being juggled. They would rather see a full-scale overhaul of the constitution to reduce presidential powers, and a scrapping of the many laws that greatly restrict political life in general. But perhaps most of all they would like to see some tangible sign that Mr Mubarak's regime has any intention of loosening its hold.

Last year's presidential election was touted as such a sign, but in the end Mr Mubarak ran against state-funded candidates whose programmes included such ideas as making the fez mandatory headgear and moving the capital to Alexandria. His closest challenger, Ayman Nour, leader of the liberal al-Ghad party, who came a distant second, soon found himself in trouble. An unheralded weekend session of parliament lifted his immunity and he was put in jail, where he remains, despite doctors' pleas that he is dangerously ill. “President Mubarak's speeches are simplistic and devoid of ideas,” Mr Nour protested from prison in his party's newspaper last week. “They offer nothing new.”

The fact is that even as Mr Mubarak speaks of democratic reform, his security services have embarked on

one of the fiercest campaigns of repression against the Muslim Brotherhood and other dissidents in his quarter-century reign. Campaigners for reform have been arrested and sometimes tortured. Islamists and leftists have been barred from running in student and trade-union elections; when students at one university tried to set up an independent union they found themselves set upon by squads of armed thugs.

Perhaps more ominously, demands by Egypt's judges for greater independence have been answered with intimidation, including a sudden shut-off of state funding for judges' clubs. One of Mr Mubarak's mooted reforms, it appears, will be to reduce the judiciary's longstanding role in supervising elections. This may be in reaction to the judicial outcry at the part Egypt's security forces played in helping the NDP to another success at the parliamentary election a year ago.

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South Africa

Is there a real opposition?

Nov 30th 2006 | JOHANNESBURG
From The Economist print edition

The impending retirement of the main opposition leader, Tony Leon, raises questions about the future of South Africa's democracy

Get article background

THE biggest argument in South African politics is still over who will succeed Thabo Mbeki as president. Next year the ruling African National Congress (ANC) will choose a new leader, who will be virtually certain to become the country's president when South Africans vote for one in 2009. But another big question came to the fore this week when Tony Leon, who heads the main opposition, the Democratic Alliance (DA), said he would step down at its congress in May. What sort of opposition will the ANC then face? Given the country's peculiar history, does any party, the ANC apart, have a hope of one day heading a government itself?

Mr Leon, a lawyer who will be 50 this month, can claim to have been a modest success as opposition leader, even though the DA has no chance of ruling South Africa in the foreseeable future. In his 12 years at the helm of the variously-named liberal opposition, his party's vote has steadily crept up from less than 2% in the first post-apartheid general election, in 1994, when it was called the Democratic Party, to 12% in 2004 and 16% in local elections earlier this year.

AP

Mbeki never got a grip on Leon

As the Democratic Alliance, it has spread from its white, liberal, mainly English-speaking anti-apartheid roots to embrace white Afrikaners (those of mainly Dutch origin) and Coloureds, as mixed-race South Africans are known. This expansion was partly due to a controversial alliance in the late 1990s with the New National Party, a modernised version of the old apartheid-era ruling party. The marriage was brief: after a few years the New Nationalists decided, in a supremely ironic twist, to join their old ANC foe, which happily gobbled them up. Mr Leon's lot then kept a fair chunk of the old apartheid party's white and Coloured vote.

Besides becoming the biggest opposition party, with a shoal of minnows splashing far behind, Mr Leon argues that the DA's main achievement has been to entrench the idea of opposition in South Africa's political landscape. As in most countries where former liberation movements dominate politics, the idea of legitimate opposition in South Africa is awkward. The country's peaceful transition began, after the first post-apartheid general election of 1994, under a government of national unity. Support for the ANC grew from 63% in that first election to 70% a decade later. Mr Leon remembers how, in 1996, Nelson Mandela, South Africa's first post-apartheid leader, suggested that Mr Leon, “the man who gives me all the trouble”, should join his ANC-led government.

However, the DA's biggest failure has been its inability to get many black South Africans to vote for it. Though blacks make up 80% of the country's 48m-odd people, only a tenth of DA voters are black. Unless the party can attract more of them, it will remain little more than a watchdog—albeit, so far, a fairly effective one.

It will be hard. Twelve years after apartheid, South African politics is still more a matter of identity than ideas. The DA is largely seen as a party of minorities led mainly by whites. Mr Leon thinks it can woo black voters only if it creates a sturdy presence in predominantly black areas. Its biggest success has been in the Western Cape, one of the country's nine provinces, where the DA has set up a strong

network, especially in Coloured areas; indeed, the DA is now the party to which the country's 4.2m Coloureds (as well as its 4.4m whites) give their largest vote.

An early front runner to replace Mr Leon is probably Helen Zille, Cape Town's feisty mayor. But she is white. Joe Seremane, the DA's chairman, who is black, is solid but not strikingly charismatic.

While pointing out that policies still do not determine voting preferences, Mr Leon nonetheless argues that the DA's liberal economics offers the best recipe for reducing poverty and South Africa's unemployment, which afflicts between 25% and 40% of the working-age population, depending on which figures you accept.

But the DA's other big snag is that many disgruntled blacks look to their left—not to Mr Leon's free-market liberalism—for their economic salvation. The ANC's Communist and trade union allies have carped relentlessly at the government's pro-business policies, which—they argue—have done nothing for the poor. They have also lambasted “black economic empowerment”, which they say has so far merely created a small elite of rich blacks.

This partly explains the enthusiasm among many in the ANC's left-tilting rank and file for Jacob Zuma, the country's former deputy president who was sacked last year. Though the embattled Mr Zuma says he backs the government's current economic policy, many people guess he will tack to the populist left in a renewed bid for the party's top spot. After being acquitted this year of rape and with charges of corruption dismissed for now, his star has recently looked a lot brighter.

The DA says the ANC has weakened the role of parliament, is trying to undermine the independence of the courts and hampers the media. After winning back control of Cape Town's city council earlier this year, the DA says that the ANC is refusing to let it assert its authority over the city.

In any event, other watchdogs, apart from the DA, are also effective. The ANC has had to put controversial bills on judicial reform and the media on ice. Lobbies such as the Treatment Action Campaign have helped arm-twist the government into revising its much-reviled stance on HIV/AIDS. Other independent lobbies are forceful and energetic. Newspapers air cases of ANC corruption. If the notion of a legitimate opposition does not take root in South Africa, says Mr Leon, it is unlikely to do so anywhere else on the continent. So far, it has sunk in quite well. But how firm will it be in, say, a decade?

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The pope in Turkey

Tiptoeing through a spiritual minefield

Nov 30th 2006 | ISTANBUL
From The Economist print edition

The pope's tour of Turkey has stirred up plenty of controversy

EPA

Get article background

WHEN expectations are abysmally low, almost anything can come as a pleasant surprise. Barring last-minute upsets, that seemed to be the conclusion people on all sides were drawing as Benedict XVI pursued one of the trickiest diplomatic missions ever undertaken by a pope.

“You are not wanted! Don't come! Don't cause tension!” screamed a headline in Turkey's noisiest Islamist newspaper, *Vakit*, on the eve of the papal visit to Turkey this week. In case anybody was vague about the theological differences between the world's two largest monotheistic faiths, participants in an anti-papal protest held up a placard that spelled it out: to Muslims, Jesus Christ is not the son of God, he is a prophet of Islam. Cooler-headed Turks—the great majority—were embarrassed by the stridency of their pious compatriots, but some still resented the pope's visit because it gave hotheads such a perfect opportunity to sound off.

Against this gloomy background, the set-piece encounters between the pope and Turkey's leaders, secular and religious, brought sighs of relief all round. Recep Tayyip Erdogan, the mildly Islamist prime minister, showed once again his gift for drawing back from the brink of crisis by agreeing at the last minute to meet the pontiff at Ankara airport. Mr Erdogan claimed afterwards that one of Europe's most prominent Turco-sceptics had been converted into a supporter of his country's European Union membership—at a time when that flagging cause needs all the help it can get (see article). Whether Benedict really has overcome his personal doubts about Turkey's EU membership is open to question; but the new Vatican line is that, if Turkey meets the necessary conditions (including respect for Christian rights) to join the club, that can only be good.

In a gesture of personal humility that Turks found impressive, the pope also called on the country's top religious bureaucrat, Ali Bardakoglu, who looks after Muslim affairs, at his office. It was a somewhat surreal encounter: each side fielded 11 officials, like a football team, while a Turkish actress, best known for her roles in steamy films and her startling changes of hair colour, served as interpreter. But it gave the pope a chance to say what he really believes about relations with Islam: that the two faiths should have an “authentic dialogue” and get better acquainted, while avoiding the mistake of seeming to paper over their differences.

Behind the diplomatic *politesse*, however, lurk some hard, unresolved issues over Turkey's relationship both with other faiths and with its potential Western partners. The day after he met the pope, Turkey's president, Ahmet Necdet Sezer, said that he was blocking several provisions of a law designed both to satisfy a long-running EU demand and to respond to one of the biggest grievances of the country's religious minorities.

As passed by parliament on November 9th, the law would have made it easier for non-Muslim religious foundations, and foundations controlled by foreign interests, to acquire property—or, in cases where it had previously been confiscated by the state, to reclaim it. Over the Turkish republic's 83-year life, property worth hundreds of millions of dollars—schools, hospitals and orphanages, for example—has been appropriated from non-Muslim religious communities, and in particular from the Greek Orthodox church in Istanbul. Attempts to regain it have generally been blocked by arcane procedural and legal manoeuvres.

The president's veto on parts of the bill will hardly be seen as a kind gesture towards Europe, or to local Christians. If the avowedly Islamist Mr Erdogan had blocked the reform, it would have been interpreted as a sign of Muslim antipathy towards Christians. Coming from the president, the gesture speaks of lingering xenophobia among Turkey's secular elite.

As he made his way round Turkey, the pontiff was no doubt mindful not only of the deep differences of opinion among Turkish Muslims, but also of some highly sensitive issues in intra-Christian diplomacy that were the original objective of his trip. He first planned to come to Turkey as a guest of Patriarch Bartholomew I, the 270th archbishop of Constantinople and New Rome. The goal was to pursue closer relations between Roman Catholicism and Orthodox Christianity, in which the Istanbul-based prelate ranks as first among equals.

On the face of things, the papal visit is a much-needed boost to the morale of the patriarch, whose local flock has shrunk to only a few thousand, thanks to a steady exodus of Istanbul Greeks that started after state-sponsored pogroms in the 1950s. But extravagant gestures of fraternity between pope and patriarch still upset several other parties. The first of these are Turkish nationalists, inside and outside the state, who are always suspicious that the Orthodox prelate may compromise Turkish sovereignty by trying to establish a “Vatican state” on the soil of their republic. Also watching warily are devout Orthodox Christians around the world, who stand ready to denounce the patriarch if he appears to backslide on any doctrinal points.

Perhaps the wariest observers are the Russian authorities, both lay and clerical. As the pope has quickly found, his declared wish for rapprochement with Orthodox Christians has opened up an old fault-line in the Orthodox world between the Russians, who see themselves as top Orthodox dogs by virtue of numbers and geopolitical power, and the Istanbul patriarchate, which enjoys an historic “primacy of honour” among Orthodox sees.

In September, when senior bishops of the Roman Catholic and Orthodox world held their first formal encounter for many years, the Catholics were embarrassed to find themselves witnessing a big Greco-Russian squabble, laced with intricate arguments over the meaning of decisions taken 1,500 years ago. In a world where politics and religion inexorably overlap, such matters affect diplomacy too.

Take the thorny issue over whether the Istanbul bishop may style himself “ecumenical” or universal patriarch. The Turkish state says no: his followers, including an influential lobby of Greek-Americans, say yes. A fresh spat broke out only this week when the Turkish authorities declared that the patriarchate's security badges for the papal visit were invalid because they employed the E-word. Officials in Ankara admit that they are under pressure from Russia on this issue of Christian nomenclature. The message from Moscow is that Turkey's present policy suits them just fine. Pity the pope as he tiptoes around this many-cornered fight.

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Russia's foreign relations

Friends in need

Nov 30th 2006 | MOSCOW
From The Economist print edition

Vladimir Putin rediscovers old friends. He needs them

IT IS official. Alyaksandr Lukashenka, the repressive president of Belarus, admitted last week that the results of his country's presidential election in March were fixed—but to give him fewer votes than he actually received. His true score of 93%, Mr Lukashenka explained, would not have been acceptable to the European Union, so a few points were lopped off.

Mr Lukashenka's government has been making uncharacteristically positive noises towards the EU. Last week the president also mooted the idea of creating a union with Ukraine, a country he previously regarded as a dangerous incubator of revolution. Rather more modestly, he suggested that Ukraine and Belarus should co-ordinate their policies over transporting Russian gas. That was a clue to his real motive: anxiety about a threatened quadrupling of the price that Belarus pays for Russian gas, from the low rate that has hitherto subsidised the economy—and thus Mr Lukashenka's whole regime.

TASS

Putin tries to befriend the neighbours

In Minsk this week Mr Lukashenka hosted a summit of the Commonwealth of Independent States—a forum for all ex-Soviet countries, bar the Baltic three, that many now privately think is redundant. It happened to coincide with the NATO summit in neighbouring Latvia. It also coincided, perhaps fortuitously for Mr Lukashenka, with an uncomfortable few weeks for Russia's Vladimir Putin.

The supposed union of their two countries, to which both are theoretically still committed, looks remote. But they did make some progress over gas. Belarus will pay less than it feared, in exchange for surrendering partial control of its pipeline network, through which gas is pumped to Europe, on terms yet to be finalised.

There was also rapprochement of a sort between Russia and Moldova: a punitive ban on Moldovan wine and meat exports to Russia is being lifted. Moldova, explained Dmitri Peskov, a Kremlin spokesman, took a “more constructive” approach to lifting the ban than Georgia, whose wine and water have also been blocked. Russia's president hoped at one point to nip up to Riga to upstage the NATO summit and mark the birthday of his French counterpart and friend, Jacques Chirac—but this plan fizzled out.

That Mr Putin should be so anxious to strengthen Russia's weakening ties with its “near abroad”, and with his few remaining Western allies, is understandable. The radioactive fall-out from the death last week in London of Alexander Litvinenko—a former KGB agent who was apparently poisoned with polonium—may have been small (although radioactive traces have been found on aircraft that flew between Moscow and London before Mr Litvinenko's death). But the diplomatic fall-out could hardly have been bigger.

Conspiracy theories in Moscow about who killed Mr Litvinenko have reached a pitch of dialecticism that is scarcely intelligible to outsiders. It was done either by Mr Putin, or to discredit him; to promote one of his possible successors as president, or to force him to stay in office. The polonium was either an intentional warning or a cock-up. Mr Litvinenko was murdered by the same forces who killed Anna Politkovskaya, a journalist, in October; or somebody saw her shooting as an opportunity to settle other scores. Mr Putin's allies point the finger at Boris Berezovsky, a renegade Russian oligarch who lives in London and sponsored Mr Litvinenko. His alleged goal? To disgrace Mr Putin and ultimately force his clique from power.

The Russians have agreed to co-operate with a British investigation. But whoever did it, Mr Putin has been vilified in the West's media. It emerged this week that Yegor Gaidar, a former prime minister, fell violently ill in Dublin on the day after Mr Litvinenko died (Mr Gaidar is now apparently recovering). Although a critic of some of Mr Putin's policies, Mr Gaidar is a highly unlikely target for the Kremlin. But his plight can only add to the impression, widely held west of Minsk, that Russia is an increasingly dark place.

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Poland's awkward government

Into the fray

Nov 30th 2006 | WARSAW
From The Economist print edition

The government's incompetence, at home and abroad, may be starting to undermine its popular support

NOBODY could accuse Poland's rulers of laziness. Since coming to power a year ago, the Law and Justice party has closed down an intelligence agency staffed by Communist-era spies, started an anti-corruption drive and overhauled the legal system. But its capricious and quarrelsome attitude has been disastrous in foreign policy and bewildering at home.

Last week a Polish veto stopped the European Union from launching its long-planned partnership talks with Russia. Many countries privately sympathised with the Poles' concerns, but few supported them publicly. These days foreign diplomats roll their eyes and sigh whenever Poland is mentioned. And the prime minister, Jaroslaw Kaczynski, always talks of Polish national interests as if they naturally run counter to those of the EU.

Reuters

Twins twisting in the wind

Poland's European partners may be irritated by this, but the voters seem only mildly bothered. Local elections last month provided a test. Overall, Law and Justice did respectably, especially in rural areas. But it lost the crucial battle for Warsaw. The mayorship, once held by Lech Kaczynskzi, the prime minister's twin brother who is now Poland's president, has a budget of over €2 billion ($2.6 billion) and thousands of staff. Law and Justice's candidate was a popular former prime minister, Kazimierz Marcinkiewicz, but he was beaten by a former central-bank governor, Hanna Gronkiewicz-Waltz, who declared after her victory that more people were now realising “that Law and Justice governs ineffectively”.

Law and Justice still has several popular politicians, notably the justice minister, Zbigniew Ziobro. Aged only 36, the media-savvy Mr Ziobro has cut both crime and the cost of seeking legal advice. His latest coup was to persuade America to arrest, pending extradition, Edward Mazur, a Polish-American businessman. Mr Mazur, who denies any wrong-doing, is accused of involvement in organised crime and the 1998 murder of a top policeman—a crime that successive governments have been mystifyingly reluctant to investigate.

The government has not brought the revolution in public administration that it once promised. But it is at least using European money to modernise Poland's agriculture and transport system. The minister in charge, Grazyna Gesicka, has simplified application procedures. The amount being successfully sought from Brussels has risen fivefold. Poland is due to receive some €60 billion from the European Union between 2007 and 2013. Even Polish business, usually a harsh critic of the government's statist economic policies, is pleased. Still Danuta Hübner, the (Polish) EU commissioner for regional policy, says that absorption capacity will have to “accelerate dramatically”.

Businessmen are rather less pleased that strong growth has allowed the government to splurge on social programmes. It has introduced higher child benefits and tax breaks for families; it has also agreed to raise salaries for police, border-guards, medical staff and teachers next year, as well as putting up the national minimum wage.

Besides clumsy diplomacy and dubious economic policy, a big worry concerns the government's attitude to public institutions. It sees these as riddled with people who collaborated with former communists and

their security services. Marek Jurek, parliamentary speaker and deputy chairman of Law and Justice, says that changing this is necessary to create the conditions for making Poland a more democratic country. Yet some assert that the purges and reorganisations are increasing centralism and threatening democracy. A law on the civil service puts it under the direct control of the prime minister's office, for example, and scraps civil-service exams for top posts, which has created new opportunities for nepotism and politicisation.

However honest it is in its intentions, Law and Justice makes little effort to display fairness. A change in the statute of the national broadcasting council has left the opposition without a representative on the council's board for the first time since its inception in 1993. The new military counter-intelligence service is headed by Antoni Macierewicz, a close friend of the prime minister's. Changes to the electoral law that boosted Law and Justice's chances in the local elections were rushed through parliament at the last minute. The opposition took the law to the constitutional court, which approved it but expressed some misgivings, particularly about the speed with which the president signed the bill.

Not everything can be said to be going wrong, given the bounciness of the economy. But Poland could be doing better still. Moody's, a rating agency, says that growth has the potential to reach 7%; and it worries that the government's recent attacks on the central bank's independence could affect Poland's creditworthiness. Bronislaw Komorowski, a senior figure in the opposition Civic Platform, says that the government's failure to reform the public finances has wasted the opportunities afforded by Poland's EU membership.

Law and Justice admits to slow progress on some fronts, but says that it is hampered by its two coalition partners, the leftist agrarian populists in the Self Defence party and the Catholic-nationalist League of Polish Families. The coalition has often teetered on the brink of collapse in the past 12 months. Paradoxically, the local-election results may strengthen unity (both smaller parties were trounced, and so have no interest in an early general election). The next test for the government will be the decision to send more than 1,000 troops to Afghanistan early next year and to extend the Polish presence in Iraq after the mandate runs out in December.

Law and Justice is sincere and has some sensible ideas. But its learning curve has been painfully long, its manners uncouth and its coalition partners loutish. Steering Poland in the right direction may need a firmer hand and a clearer head than either Kaczynski twin possesses.

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The European Union's new members

Through the looking glass

Nov 30th 2006 | BRUSSELS
From The Economist print edition

It is, alas, easier to influence candidates for entry than those now in the club

THERE are no short cuts to joining the European Union. That is what the politicians tell aspiring members in the Balkans, as well as Turkey. But what happens when new members start to unpick some of the reforms they made during their accession process? The answer, judging by recent administrative changes in central Europe, is not a lot.

In October the Polish government passed a law to give politicians greater power to appoint top civil servants, and scrapped the independent civil-service office. Aleksander Smolar, a former prime ministerial adviser, sees the reform as “an attempt to eliminate a non-political civil service”. Polish civil servants expect the new law to bring more instability, as bureaucrats change with their political masters. Already a rush of party members and relatives of politicians have won jobs in some ministries (see article).

It is not just Poland that has post-accession syndrome. In June the Slovaks amended a law to make it easier for politicians to control the civil service. The Czech government has repeatedly postponed a law to regulate the appointments of civil servants. Yet the new members have much to do to improve their clunky administrative machinery. A 2004 study by the EU and the OECD found that administrative standards in the region were not up to Western standards: patronage was a problem, and low pay plus discretionary power increased the risk of corruption. Francisco Cardona at the OECD thinks that this 2004 verdict stands. Although some countries are continuing with reforms, others are backsliding. In particular, he says, Poland and Slovakia “are collapsing into old practices”.

Under the 1993 “Copenhagen criteria” would-be EU members must show that they meet the political and institutional standards of membership. This gives the EU huge influence over aspirants. But once they have joined, there is little Brussels can do to make them keep up their reforms. The 90,000-page *acquis communautaire*, the EU's body of rules and regulations, does not cover the civil service. If new members resile from commitments that are not part of the legal *acquis*, there is no obvious remedy. European Union law may influence the value of a cow or the production of jam, but it cannot enforce transparency and probity in national administrations.

The solution is unlikely to be still more EU law, since most countries are nervous over giving more power to Brussels. One EU official thinks a more realistic option is informal peer pressure. Countries might act if they are embarrassed to have “a crony-ridden, nepotistic, badly run public sector”. Yet history suggests that politicians do not embarrass easily: Italy, a founding EU member, is ranked 45th in Transparency International's corruption index. It remains a poor advertisement for the EU if existing members fail to meet the standards that are set for new ones.

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Europe's emissions-trading scheme

Compressed

Nov 30th 2006
From The Economist print edition

The European Commission insists, belatedly, on tighter emissions caps

EUROPEANS like to think they take their greenery seriously. On November 29th the European Commission boosted this self-image by proposing more exacting limits on the amount of carbon dioxide and other greenhouse gases that European firms will be allowed to emit in future. If confirmed, the decision may restore European policymakers' reputation for tackling climate change seriously. And it might even inspire less enthusiastic countries (including America) to take more determined action themselves.

As it is, the European Union is the only place in the world that sets any limits on heavily polluting industries' output of greenhouse gases. National governments have set caps on overall emissions, and then handed companies a corresponding number of permits to pollute. Firms that want to exceed their allocations must buy spare permits from cleaner rivals, or else pay for projects to offset their excess emissions in poor countries. The system, known as the emissions-trading scheme (ETS), is designed to help European countries to meet their commitment to cut emissions under the Kyoto Protocol, an international treaty on climate change, as cheaply as possible.

Alamy

More power to the commission's elbow

The commission reserves the right to vet the national caps, to make sure that each country is pulling its weight. For the first phase of the ETS, between 2005 and 2007, governments handed out more permits than were needed. When this became clear earlier this year, the price of emission permits plummeted. The surfeit of allowances also suggested that Europe was not cutting its emissions very dramatically. Environmentalists fretted that the world's most ambitious emissions-trading scheme might prove meaningless, setting a poor precedent for other countries which are being urged to take vigorous measures to combat climate change.

Sure enough, national governments once again proved to have been too generous when it came to handing out permits for the second phase of the ETS, which runs from 2008 to 2012. But this time, the commission has put its foot down. It has trimmed all the proposed caps except Britain's, by 7% on average. It has told countries that promised to hand dirty power plants all the permits they needed for years to come that they could not do so, because such pledges might undermine any chance of introducing a tougher regime after 2012. The price of permits has now gone up a little—although an ever-increasing supply of credits resulting from emissions reductions overseas should stop it from rising too far.

So far the commission has ruled on the plans of only ten of the 25 EU members. Six countries have not yet bothered to file their plans, five months after the supposed deadline; France is promising to resubmit its proposals. Nor is the commission's verdict the final word. There will be months of revisions and haggling before the shape of the second phase is clear. Nonetheless Kate Hampton of Climate Change Capital, an investment bank that specialises in emissions trading, argues that the commission has at least shown that it is determined to be a “credible regulator”.

That might encourage other countries to imitate the ETS, or even to join it. America seems to be inching towards some sort of regulation of greenhouse gases (see article). Indeed, Europe's example might just pave the way for a worthy successor to Kyoto, which expires in 2012—so long as the commission

manages to keep Europe's recalcitrant governments in line.

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Charlemagne

The Turkish train crash

Nov 30th 2006
From The Economist print edition

How to salvage something from the wreckage

Get article background

MELANCHOLY is Istanbul's defining characteristic, writes Orhan Pamuk, Turkey's Nobel prize-winning novelist. And melancholy has now descended on the country's relationship with Europe. “Almost everyone I know has lost heart,” says Soli Ozel, a political scientist at Istanbul's Bilgi University who wants Turkey to join the European Union.

His disenchantment is justified. Turkey's membership talks are on the edge of collapse. The EU gave the Turks until December 6th to open their ports and airports to traffic from Cyprus (ie, the Greek-Cypriot republic). Turkey refuses to do this unless the Europeans lift what amounts to their trade embargo on the (Turkish-Cypriot) north. The current Finnish presidency of the EU has failed to find a compromise. So the only questions now are how many “chapters” in the negotiations will be suspended—this week the European Commission suggested eight out of 35, all related to trade and the internal market—and whether the suspension is handled with enough delicacy by both sides to let them be reopened easily in a couple of years' time.

It was always going to be difficult to get Turkey into the EU. On top of complications arising from its poverty, its mostly Muslim culture and its mistreatment of the Kurds, it would be the largest member, with the most votes in the Council of Ministers and the most seats in the European Parliament. Even so, the accession talks have been unnecessarily fraught.

During the past year Turkey and the EU have squabbled bitterly over Cyprus, over clauses in the Turkish penal code that limit free speech and over a French proposal to make it an offence to deny the Armenian genocide of 1915. These may be real issues, but they have not affected Turkey's Western orientation, as embodied in its NATO membership and its impressive reform programme. The economy is growing by 6-7% a year; Turkey was the first Muslim country to send peacekeepers to Lebanon.

All this suggests that the quarrel is to do as much with the Europeans as with the Turks. In 2005 European political leaders agreed to negotiate Turkish accession in good faith, but it is not clear that all are doing so. Unwilling to admit that they want to keep Turkey out, France, Austria and Cyprus are making demands that seem designed to induce the Turks to walk away.

Now another insidious argument is being aired. Negotiations with Turkey are not merely failing; they are damaging the country's Westernisation. Because of the disputes, Turkish support for joining the EU, which stood as high as two-thirds in 2004, has fallen to only one-third now. Three-quarters of Turks believe the EU will never let their country in. Better, say some, to suspend the talks now, before these squabbles do more harm.

Some add that it will make little difference. The painstaking work of bringing Turkish law into line with EU law has more or less stopped. Talks on suspended chapters cannot restart soon because, over the next 18 months, three elections will get in the way (presidential and parliamentary ones in Turkey; a presidential election in Cyprus). So, the siren voices argue, Turkey would do better to give up now and settle for a privileged partnership instead (this is what Germany's Angela Merkel wants). Turkey's Westernisation need not be halted, just diverted: it began in the dying years of the Ottoman empire, long before the EU was dreamt of, and is thus independent of it. For the Turks, EU membership is not a matter of identity; it is a matter of choice.

But it is a good choice—and the consequence of abandoning it could be more serious than the Europeans realise. The EU goal helps to stabilise several shaky elements in Turkey. For the moderate Islamist government, it offers protection against military intervention. For the army, it guarantees secularism. For business, it entrenches market reform. For Kurds, it promises minority rights. Turkey would not suddenly become like Iran if its membership bid failed. But any of these elements might wobble—and the risk of a clash between the army and Islamists would rise.

Nor is Turkey about to join the axis of evil. But unlike previous applicants, it has options other than the EU: bad ones, perhaps, but alternatives nonetheless. It could flirt with Russia or Iran (as a former army chief has suggested). Or it could become pro-Western in the way that, say, Egypt is.

Pause, don't stop

For the EU, a rejection of Turkish membership would represent a huge lost opportunity. Europe's foreign policy, and its hopes of global significance, would suffer a catastrophic loss of credibility if it were seen to be blackballing a moderate Muslim country that has NATO's second-largest army. The EU's reputation in the Muslim world, which is watching the membership talks with Turkey closely, would sink, perhaps even below America's.

At home, a failure of the talks would send a message to Europe's 15m Muslims: that you have no place in Europe. There are some 3m Turks in Germany. What is the government going to tell them? “You do not belong here. Please do not riot”? The Germans, who have more at stake than anybody else, have been breathtakingly insouciant about the consequences of a failure of Turkey's membership bid. In many ways Ms Merkel's ambivalence has done more to damage Turkey's prospects than the more obvious hostility of France and Cyprus.

If it is bad policy to freeze the negotiations, and impossible to continue them, what is the alternative? At their summit later this month, the EU's leaders will rule on the plan to suspend talks on eight chapters and, unusually, to keep other chapters open until Turkey allows access from Cyprus. This may send a negative signal to Turkey but, given the doubts of many EU members, it may be the best that can be agreed on. The Europeans, however, should put no new obstacles in the way of reopening talks and also exert far more pressure on the Greek-Cypriots to settle the Cyprus problem. Hitting the pause button may be inevitable. But the pause must not turn into an indefinite stop.

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Transport

Running out of road

Nov 30th 2006
From The Economist print edition

Illustrations

Labour's transport policies have been a mess. Can Gordon Brown fix them?

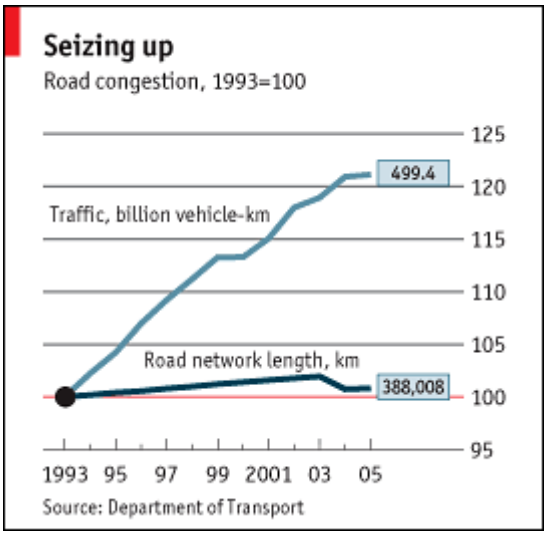
Get article background

WHEN a senior government figure described transport policy before the last election as “parked”, it was taken as a sign that, after nearly a decade in office, the government had given up on a difficult and frustrating subject. A combination of spiralling costs, long timescales and conflicting interests among voters had sapped political will. The transport minister's job was to stay off the front pages.

But Gordon Brown—the chancellor, and Tony Blair's probable successor—has decided that neglect is no longer tenable. Last year he appointed Sir Rod Eddington, an ex-boss of British Airways, to study the long-term impact of transport on the economy. As *The Economist* went to press, it was announced that his findings were due on December 1st, in the run-up to Mr Brown's last pre-budget report.

In nine years Labour has left Britain with a creaking, overloaded network and, despite three big policy documents since 1997, no strategy to improve it. Mr Brown's Treasury bears much of the blame.

Take the roads: it was Mr Brown who scrapped the fuel-tax “escalator” in 2000, after widespread public protests over petrol prices. The result is that motoring is now cheaper than at any time since 1981—an odd incentive from a government that claims to want to boost public transport. At the same time, road-building has ground almost to a halt (see chart). That has led to increasingly intolerable congestion, especially in big cities and on Britain's inadequate motorways. London's orbital M25 motorway, for example, is only 20 years old, and has been expanded at great expense to 12 lanes wide in some places. But bumper-to-bumper tailbacks are so common that drivers have dubbed it the nation's biggest car park.



No one really knows what the bill for this chronic road congestion is, although the Confederation of British Industry suggests a figure of around £20 billion a year. Ministers have promised a national road-pricing system to help ease the problem, but it is a decade away at least.

Things are no better on the railways. A 44% rise in passenger numbers over the past 12 years looks good, but it has come at vast cost. Subsidies are now £5 billion a year, over four times as high as when rail was privatised in 1994. Much of that money pays for under-used rural services to cart fresh air from village to village, while commuter trains into London and other big cities are jammed to the lids. South West Trains—which operates several London commuter services—has resorted to ripping out seats in order to pack standing passengers in more tightly. Treasury-led interference in what was supposed to be a privatised industry has muddied things to the point that no one is now sure who is in charge of the railways.

Eddington's medicine

Cynics will dismiss Sir Rod's effort as just another in a long line of reports. They may be wrong. Complaints about the malign effects of congestion, especially from business, are at a new pitch. It is this threat to Britain's long-term prosperity that now worries Mr Brown, says Edmund King of the RAC Foundation, a motorists' lobbying organisation. Indeed, the report is seen by some as a sort of mini-manifesto on transport for Mr Brown, serving the same function that the Wanless and Stern reviews did to win support for health spending and measures to tackle climate change.

David Begg, a former government adviser, points out that Sir Rod's remit was unusually clear—to study the effects of transport policy on the economy. After years in which policy has been buffeted by competing requirements for efficiency, cheapness, social justice, productivity and greenery that at least is welcome.

Few experts were looking for Sir Rod to recommend specific projects. Instead, they expected his report to suggest many small improvements to boost existing capacity. Longer platforms and better signalling, for example, would allow more trains on existing lines, while stretches of new track could relieve the worst chokepoints.

Any sensible solution will have to address the question of road pricing. Until now, the government has argued for road tolls largely as a way to manage demand, but Sir Rod will almost certainly go further, making the case for new supply as well. “Road pricing allows you to very precisely evaluate the benefits of new roads,” says Stephen Glaister, an adviser to Sir Rod from London's Imperial College. “Some of these schemes have benefit-to-cost ratios of ten to one or better. We've been under-investing in roads for years.”

No transport policy would be complete without a hefty dose of political difficulty. Mr Begg points out that boosting productivity implies spending more on cities, especially London. Diverting cash from rural railways to overcrowded commuter ones may be good for economic growth, but it will provoke howls from those who see the railways as a social service—some of them voters in marginal constituencies. New roads are needed, but with climate change rising up the agenda there will be no shortage of arguments against them.

Despite the risks and the expense, the government has reluctantly come to the conclusion that doing nothing is no longer an option. The transport department predicts that, by 2025, road traffic levels will be 40% higher than in 2004. That, it says, is “unacceptable”. At the CBI's annual conference on November 28th, Mr Brown was once again burnishing his credentials as a long-term planner, saying that investment in infrastructure was vital for Britain's future. A determined attempt to sort out transport would be a good way to show that he is serious.

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Multicultural Britain

A nation at ease with bits of itself

Nov 30th 2006
From The Economist print edition

Multiculturalism is no longer just about colour

WHEN the Mayor of London, Ken Livingstone, boycotted a conference on race relations, marking 30 years of anti-discrimination law, held on November 27th and 28th, it was put down to a personal feud between the mayor and the head of the Commission for Racial Equality (CRE), Trevor Phillips. But the row has deeper roots. It is about the new fault-line in the politics of multiculturalism: religion.

This would have surprised the drafters of the 1976 Race Relations Act, which banned racial discrimination and established the CRE to enforce the law. Then, the widespread prejudice against Afro-Caribbeans (and a smaller number of Asians) was explained by colour.

A speech by Enoch Powell, a Conservative MP, struck a chord with many working-class whites when, in 1968, he warned against the results of unchecked immigration from the Commonwealth. Powell, a classicist, said: “Like the Roman, I seem to see the Tiber foaming with much blood.”

Thirteen years later, when riots swept through 29 of Britain's inner cities, Powell's prophecy appeared to have been fulfilled. Lord Scarman's report into the disturbances in Brixton blamed the “racial disadvantage that is a fact of British life”. Since then, things have got better.

Although Afro-Caribbeans still suffer from more than their share of problems, such as high rates of criminality, low achievement by black boys at school and family breakdown, they differ little from the problems suffered by poor whites. Initially, it was the determination of Afro-Caribbeans to be part of the mainstream of British life, competing with whites for blue-collar jobs, council houses and, increasingly, for sexual partners that made them unpopular; these days it has helped them to become accepted. According to the latest MORI polling on attitudes to race, commissioned by the CRE, 80% of black people report that they mix often with different ethnic groups.

By contrast, Asians, especially Pakistanis and Bangladeshis, opted more for separateness. Consequently, they were seen as “less trouble” than Afro-Caribbeans—a silent and well-behaved minority, which kept itself to itself. But the rise of aggressive Islamic fundamentalism and its accompanying threat of home-grown terrorism has changed all that.

The same polling reflects the anxieties this has caused. Race and immigration are regarded as the most important issues facing the country today. But Mr Phillips suspects that race is not the problem so much as the cultural and religious separateness of many Asians. As well as separatist Muslims, new Sikh and Hindu organisations are emerging and the quality of leadership among these emerging groups is at best, patchy. Mr Phillips recently warned that Britain was in danger of “sleepwalking into segregation”.

The need to combat narrow-minded identity politics was much discussed at the CRE conference, as was the fact that the body will be subsumed into a super-quango, the Commission for Equality and Human Rights (see article), next year. It will fight discrimination on all fronts, including religion. Mr Phillips, who will head it, believes old-fashioned race politics is on the way out. Mr Livingstone disagrees and accuses Mr Phillips of creating unnecessary alarm over cultural differences that should be welcomed. One thing is certain. The new dividing lines are more complex than the old ones.

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A new equality body

Snow White and the seven isms

Nov 30th 2006
From The Economist print edition

The replacement for the race equality body is being attacked from all sides

“WE CANNOT start from creating a hierarchy of hurts.” So says Trevor Phillips, who will become head of a new body, the Commission for Equality and Human Rights, next year. Mr Phillips was responding to the many complaints about the proposed new organisation that were voiced by speakers at a conference on race, held in London this week. They believe that racial concerns will slip down the agenda once they become just one part of the body's work, as it gears up to fight discrimination on seven fronts.

The seven “isms”—or in politer parlance, “strands”—will encompass the rights of women, ethnic minorities, gays, the old, the religious, the disabled and the human rights of all Britons. The new body will not start work until next year, but it has already attracted criticism from both left and right. Those on the right fear that the new super-quango will become a focus for all manner of nonsensical discrimination claims (from the wilder shores of human-rights law, for instance).

Left-wing activists have other complaints. They say that the three commissions that currently defend the disabled, women and ethnic minorities are being disbanded by a government that wants fewer discrimination cases in the courts. They worry that some rights will take precedence over others.

Some race activists are cross that they, unlike those with disabilities, do not have their own committee in the new body. Katherine Rake, director of the Fawcett Society, which supports women's rights, says that if the race groups get their committee, women too might want to press for one of their own. Other groups are lobbying for committees to deal with children and “transgendered people”.

As to whether one “ism” will trump another “ism”, Mr Phillips replies that he is hardly likely, as a black man, to cease fighting for minority rights. But the complaining continues. Bert Massie, head of the Disability Rights Commission, is also uneasy about the new body, although he promises to help make it work. Stonewall, a group that campaigns for gay rights in Britain, is more positive, although Alan Wardle, its head of policy, concedes that some meetings at the new body, particularly with religious groups that deem homosexuality sinful, could be tricky. But, as Mr Phillips says, people are just going to have to learn to rub along.

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Business and politics

Cameron preferred soldiers

Nov 30th 2006
From The Economist print edition

British business feels unappreciated by politicians of all persuasions

BUSINESS organisations such as the Institute of Directors (IOD) and Confederation of British Industry (CBI) are good for many things. They provide employment for economists, conduct research and polls, hold seminars and annual conferences. But they are best at griping about the government.

At the CBI's annual conference this week, the list of complaints about Britain's declining competitiveness was long. It included worries about ever-growing red tape, congested transport, high energy prices, uncertain gas supplies and too many illiterate entrants to the job market.

But top of the list was corporation tax. Businesses fret that the rate (currently 30% for large companies), which until recently appeared quite favourable, is now onerous in comparison with those levied elsewhere in Europe (Ireland, for example, charges 12%). And they worry about the complexity of the rules and the enthusiasm of tax collectors in enforcing them. Arrangements struck between companies and revenue collectors have been overturned, and rebates thought to be owed to companies have been contested.

That so many of these gripes are familiar offers little comfort. Businesses feel that not only has little been done to address old problems but that many have got worse. According to a CBI poll, seven out of ten finance directors reckon that the business environment in Britain has deteriorated in the past five years.

It is not surprising that business is fed up with Labour. But the bitterest pill swallowed by business leaders at the CBI conference this week came from the party that many regard as their natural ally. David Cameron, the Conservative Party leader, failed to show up, preferring a trip to meet British soldiers in Iraq.

Although George Osborne, the shadow chancellor, spoke in his place, many read Mr Cameron's cancellation as a deliberate move to distance the party from business. Digby Jones, the CBI's former director-general, likened it to Tony Blair's snub to the Trades Union Congress when he was elected leader of the Labour Party.

That may be going too far. But in recent months Mr Cameron has been promising to “stand up to big business”. Polling data suggest that many voters feel the party is too close to business. And alienating industry carries few consequences; companies neither vote nor, in recent years, make many of the large political donations on which the Tories used to rely.

Mr Cameron's strategy, though, is premised on distancing the party from business without alienating it. His calculation is that ordinary voters will warm to his anti-business rhetoric, while company executives will focus on the fact that the Tory leader hopes to rely on moral persuasion to enforce good corporate behaviour rather than on new laws. On the evidence of this week, business at least seems likely to remain sceptical.

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Saudi arms deal

Shifting sands

Nov 30th 2006
From The Economist print edition

Imperilled by a fraud investigation

BRITONS who talk of their country's “special relationship” are usually referring to its transatlantic alliance with America. But another bond has proved almost as important for its defence industry in recent years—the Al Yamamah contract with Saudi Arabia.

The deal struck in 1985 between the two governments required Britain to equip, organise and train the Saudi air force. In return the kingdom has paid more than £43 billion ($84 billion) to BAE Systems, Britain's main defence contractor. Although Britain had been selling jets to Saudi Arabia since the 1960s, the Al Yamamah contract dwarfed earlier sales to that country, and any since to anywhere else. The deal helped sustain BAE through some of its leanest years and arguably preserved Britain's ability to build military jets (many of which have proved difficult to sell to anyone else).

Last year another deal was agreed—to supply 72 Eurofighter Typhoons and other services that may eventually be worth as much as the original Al Yamamah contract. But this week it emerged that an investigation by Britain's Serious Fraud Office (SFO) into arms contracts between Saudi Arabia and BAE (which denies any wrongdoing) threatens the deal, which was due for completion by the end of the year.

Allegations that bribes (euphemistically called commissions) were paid have dogged Al Yamamah from its beginning. A 1992 report by Britain's National Audit Office, a spending watchdog, has never been released for fear that it would hurt “sensitive international relations”. The SFO has reportedly recently begun probing Swiss bank accounts held by members of the Saudi royal family, causing resentment in the kingdom.

Mike Turner, BAE's boss, told the *Financial Times* this week that negotiations between the two governments had stalled. Some officials now privately fret that Saudi pique may lead it to cancel the order. Few think it coincidental that France is now touting its Rafale fighter jet.

But given the importance of the deal to Britain (50,000 jobs are at stake) the appetite for a prosecution may be limited. Nor are the Saudis likely to allow their sensibilities to come before their huge investment in Al Yamamah. Expect pragmatism to rule.

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School exams

Buffing up the gold standard

Nov 30th 2006
From The Economist print edition

A competitor could be just the thing to rescue the national exam system

CREATED 20 years ago, GCSEs were the first exams intended for all English 16-year-olds; both those about to leave school for jobs and those aiming at A-levels and university. But, according to critics, this broad qualification serves both of these groups poorly.

Fewer than half of all students get the expected five decent grades including the core subjects of English and maths. Employers complain that even those who have passed the exams often can't spell or do sums. Meanwhile, the heavy burden of coursework bores and holds back more able students.

The government thinks it knows what to do: offer new vocational options to less academic students and send them off for training and work experience a couple of days a week. But it is not proposing any changes to accommodate the cleverest. So, tired of waiting, independent schools are taking matters into their own hands.

Less constrained by the national curriculum, or the need for state approval of the exams they enter their students for, they are turning to the International GCSE (IGCSE). This qualification was originally created for use abroad and is very popular in Britain's ex-colonies. Of the 250 most prestigious private schools in England, around half now enter students for at least one IGCSE subject. It is more demanding, they say, and a better preparation for further study, particularly in maths and science—and they are especially keen on the fact that coursework is optional.

The government is worried at the prospect of a two-tier system. So now it is considering whether to allow state schools to offer the exam too (at the moment they only get money for students who are entered for state-approved exams). Lord Adonis, the schools minister and Tony Blair's education fixer, is known to be keen on the idea and the Tories agree; they even tried to include it in the recent education bill.

But the path to acceptance is not likely to be smooth. On November 23rd the government's exam regulator published a study comparing the GCSE with its international competitor—and came up with nothing good to say about the latter. Its main criticism of the IGCSE is that it does not assess the same material as the GCSE, nor does it assess it in the same way.

The exam boards who created the IGCSE are furious. Of course it doesn't assess the GCSE curriculum, they say; it was never intended to. “The national curriculum sets out a syllabus, all of which can be assessed in a different model,” says Ann Puntis, the chief executive of Cambridge Assessment, one of the two exam boards offering the IGCSE.

Cambridge Assessment will soon also be offering an alternative to A-levels along the same lines. The “Pre-U” is being developed in collaboration with teachers and academics, unlike A-levels, which must match the government's requirements. It will be piloted from next year, and the first students will be tested in 2010.

University admissions tutors are excited at the prospect of a qualification that distinguishes between the bright and the very bright (nearly a quarter of all A-level entries are currently given the top grade). They also like the way it will be examined at the end of two years, rather than in smaller chunks, as A-levels are.

There is already an approved alternative to the A-level: the International Baccalaureate, which is taught in nearly 100 English schools, both private and state. On November 30th Mr Blair outlined plans to make it more widely available—as well as to tweak A-levels by adding a new top grade for the very brightest.

But the International Baccalaureate is unlikely ever to give A-levels a real run for their money. It is too broad a qualification to be attractive to science students, and is also really only suitable for the most able.

The most prestigious universities have already started demanding that candidates for wildly popular courses, like law and medicine, take special entrance exams. Introducing more flexibility to the national system may be the only way to prevent elite schools and universities turning their backs on it completely.

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Party funding

In hock

Nov 30th 2006
From The Economist print edition

Embarrassing new details about loans are revealed

SINCE 2001 Britain's political parties have had to disclose figures for donations they have received. On November 28th the Electoral Commission, an independent regulatory body, revealed for the first time a comprehensive picture of an even more sensitive bit of their financial anatomy—the loans they have taken out. In both cases, the disclosures are for payments to the party headquarters worth £5,000 or more; there is a lower threshold of £1,000 at local level.

Red faces

Outstanding loans to political parties

	£m	Number of transactions
Conservative Party	35.32	62
Labour Party	23.39	53
Liberal Democrats	1.13	32
Scottish National Party	0.53	7
Plaid Cymru	0.35	3
Respect	0.03	6
UK Independence Party	0.02	2

Source: Electoral Commission

The figures show the desperate financial straits of the two main parties (see table). Labour owes £23.4m, a sum that exceeds, for example, its spending of £17.9m in last year's election campaign. The Conservatives have piled up even more debt, worth £35.3m. But £15.7m of this has been incurred buying the freehold of their previous headquarters in London's Smith Square, which is expected to be sold for about £30m. The Liberal Democrats are in the happier position of owing only £1.1m.

The dire position of the two big parties suggests that the current arrangements for financing politics are broken beyond repair. This may help Sir Hayden Phillips, a former top civil servant, make the case for change in his review of party funding. Whether or not he can make real progress by the end of the year will depend upon the parties agreeing on a way forward. The outlook for consensus, however, is not good as they jostle for advantage in a reformed system.

The details of the loans were as interesting as their total amount. Since March the police have been conducting what has come to be called the “cash-for-peerages” investigation. The inquiry, led by John Yates of the Metropolitan Police, is seeking to establish whether the parties have put forward nominations for peerages in return for financial favours. It has proved a much more serious affair than was thought likely at its outset. Michael Howard, the Tory leader at the last election, has already been interviewed and Tony Blair is expected to be interrogated soon.

The sale of honours has been illegal for the best part of a century. However, there is another way that the parties might have broken the law—the much more recent act mandating disclosure of donations. This would arise if they failed to reveal the benefits they have derived from loans provided on more favourable terms than those available from commercial lenders.

Already the parties have revealed many of their loans voluntarily. But the commission's latest disclosures provide new information about the terms and conditions. For example Lord Sainsbury, a billionaire former science minister, lent Labour £2m in early 2005 at an interest rate of 6.75%. Around the same time Lord Laidlaw, a businessman, lent the Conservatives £1m at the Bank of England's base rate (now 5.0%) plus 1%.

These rates are comparable with those provided for mortgage loans, but neither was backed by a security. Commercial lenders typically demand higher rates for unsecured credit. However, both Labour and the Tories insist that all their loans were on commercial terms. “Yates of the Yard” may think differently.

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TV's revolving door

Dumped

Nov 30th 2006
From The Economist print edition

The BBC suddenly loses its chairman to ITV

TELEVISION types wondered if Michael Grade, one of the industry's most ambitious businessmen, was happy as the BBC's chairman, working part-time in Marylebone High Street, far away from headquarters in west London, thinking about dull governance issues. This week they got the answer: on November 28th Mr Grade abandoned Auntie to become executive chairman of ITV, the biggest commercial broadcaster.

Mr Grade's defection is a coup for ITV, which just a short time ago looked likely to lose its independence to NTL, a cable company. It is struggling with falling audiences and advertising revenues, and its chief executive, Charles Allen, resigned in August. ITV was snatched from NTL at the last minute by BSkyB, a satellite-TV company controlled by Rupert Murdoch, which took a 17.9% blocking stake two weeks ago.

With Mr Grade in charge, ITV has the chance to lift its ratings. He was deputy controller of entertainment programmes at LWT, an old commercial channel, and oversaw TV programming at the BBC, where he commissioned “EastEnders”, its most popular show. He ran Channel 4 for a time, before becoming chief executive of First Leisure Corporation, a nightclub and bar operator. For two years he was chairman of Camelot, which runs the National Lottery. “He's got the perfect mix of experience in programming, running commercial public companies and, from the BBC, dealing with politicians,” says Patrick Wellington, media analyst at Morgan Stanley.

Political skills will be vital, as ITV hopes to escape from a condition of its merger in 2004 which stops it from raising its advertising rates as much as it otherwise could. The main doubt over Mr Grade, with his traditional telly background, is whether he can devise a successful new media strategy for ITV. “He's not particularly modern,” snipes a rival executive.

The BBC is said to be in shock. But losing Mr Grade will change little. It has already secured another ten years of the publicly-funded licence fee. The precise amount is uncertain, but Mr Grade's departure is unlikely to change it. Considering the way the BBC corners the market for top TV actors and presenters—it reportedly pays Jonathan Ross, one star, £6m a year—the least it can do is spare ITV a bit of executive talent.

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Bagehot

Labour's Scottish problem

Nov 30th 2006
From The Economist print edition

A victory for the SNP next year would be the worst possible start for Gordon Brown's premiership

NOT all birthdays are welcome. Three weeks ago, Scotland's culture minister, Patricia Ferguson, announced a series of events intended to mark the 300th anniversary of the completion of the Treaty of Union between England and Scotland in 1707. They are not extravagant. Scottish and English versions of a commemorative £2 coin will be minted and there will be some low-key exhibitions. Plans for the celebrations to reach their climax in Edinburgh on May 1st with marching bands and fireworks are on hold. That is understandable. Elections to the devolved Scottish Parliament will be held two days later that could pave the way to the break-up of the United Kingdom.

What has cast a dampener on the festivities is the recent resurgence of the separatist Scottish Nationalist Party (SNP) and mounting evidence that Scottish voters are coming round to the idea that independence for their country might not be such a bad plan. On Monday, a poll for the *Scotsman* newspaper by ICM suggested that Alex Salmond, the SNP's leader, is on course to become Scotland's first minister in May. The poll put the SNP five points ahead of Labour. Translated into seats under Scotland's voting system that would make the SNP the biggest party in the parliament and the dominant force in the new executive.

The SNP's rehabilitation is partly the result of the natural pendulum effect in politics. Labour and the Liberal Democrats have run the executive since 1999, while the Tories have ceased to exist as a serious political force in Scotland. The disgruntled have nowhere to go other than the SNP. The other factor is oil. The SNP has always argued that 90% of North Sea oil belongs to Scotland and high energy prices have given a new sheen of credibility to the party's sketchy economic plans.

Using the example of Norway and some bullish forecasts about future prices and, especially, reserves, Mr Salmond recently claimed that within ten years, using only half of “Scotland's” oil revenues, the country could have a £90 billion trust fund. “The choice for Scotland”, said Mr Salmond, “is clear—those revenues either flow south to London or they can be invested for the people of Scotland.”

To that end, Mr Salmond has promised that within 100 days of taking office he would publish a bill setting out a date for a referendum on Scottish independence. Whether he would win it is another matter. But just as the SNP's new-found popularity has taken the Labour-dominated Scottish political establishment by surprise, so it is no longer beyond the bounds of possibility that Scots could decide to

quit the union.

At the weekend another ICM poll (in the *Sunday Telegraph*) found that by 52% to 35% Scots favoured the idea of independence. On November 30th a YouGov poll commissioned by the SNP asked the question that Mr Salmond says he would put on a referendum ballot: “Do you agree that the Scottish Parliament should negotiate a new settlement with the British government so that Scotland becomes a sovereign and independent state?” Fifty-two per cent did.

The stream of cabinet ministers who made their way to the Scottish Labour Party's conference in Oban last weekend to lambast the SNP and strike fear into the heart of anyone considering voting for them told its own story. The possibility of a victory for the nationalists in May is now Labour's worst nightmare. Were Scotland eventually to become independent, Labour would lose both 41 Westminster seats and some of its best political talent. But there would be serious trouble well before then.

Thanks to Labour's asymmetric (or unfair) devolution settlement, Scottish MPs at Westminster can vote on health, education and Home Office policies that have no bearing on their constituents. With its reduced majority and a hard core of serial rebels, the government can secure large parts of its legislative programme only with the help of its loyal Scots. As an answer to the so-called West Lothian question, there is a growing feeling at Westminster that only English MPs should be allowed to vote for English laws. An avowedly separatist Scottish executive would greatly exacerbate such strains.

The biggest danger for Labour generally and for Gordon Brown's premiership in particular may not be a sudden formal end to the union, but a widening gulf of sympathy and understanding between England and Scotland, which will affect the legitimacy of a government led by Scots and sustained in Parliament by Scots. As worrying for Labour as Scotland's rising interest in independence is ICM's finding that 59% of voters south of the border also like the idea of Scotland going its own way.

An unhealthy relationship

One reason for the new mood in England is growing awareness of the extent to which generous English subsidy has supported a bloated public sector that accounts for 55% of Scottish GDP and provides comparatively well-off Scots with perks, such as free university tuition and free long-term care for the elderly, unavailable in England. Another is the perception of creeping Anglophobia in Scotland. It's bad enough that Scots get an average £1,500 ($2,900) a head more in public spending than their English counterparts, but they won't even support England's footballers when they play foreign teams.

To judge by the speeches that Mr Brown, Tony Blair and John Reid, the Lanarkshire-born home secretary, made in Oban, Labour's message to the Scottish electorate is that flirting with the SNP puts at risk the subsidy pipeline from Westminster. It is hard to think of an approach that more richly deserves to fail. It demeans the Scots by brutally reminding them of their dependency, while at the same time stoking resentment in England about the way Labour bribes its restive vassals in the north to go on voting for it. Unattractive though the SNP is in many ways, Labour's relationship with Scotland is even more so.

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Russia and China

When dragons dance with bears

Nov 30th 2006 | BEIJING, IRKUTSK AND MOSCOW
From The Economist print edition

TASS

Russia and China are getting along better than ever—for now

TWO years ago, Irina Abdulova, a sociologist in the Siberian city of Irkutsk, noticed a change. The town's racist graffiti had until then been directed mostly at Caucasians, reviled all over Russia. But in 2004 it found a new target: the Chinese.

One can see why bigots in search of bogeymen found China so promising. Since the Soviet collapse, the population of Siberia and Russia's vast Far East region has fallen even faster than that of the country as a whole. In the Far East, it has tumbled from around 8m in 1991 to around 6.5m today, while a total of 107m people live in three neighbouring provinces of China. As Russian numbers sag, and as Chinese traders and labourers become more visible in Russian cities, fearful talk of the “yellow peril” has flourished. The Chinese are said to be swarming across the Amur river to carry off raw materials and women.

Yet at the same time, much of Siberia's population is clad in cheap Chinese-made apparel and fed by traders from China. Businesses crave Chinese workers, for want of sober indigenous ones. In Siberian towns like Zabaikalsk (pictured above), Chinese street markets have brought a dash of colour and cheap goods. So even as they mutter racist slogans, members of Siberia's *Lumpenproletariat* benefit from proximity to the dragon.

There is a similar tension in the broader relationship between the world's former superpower and its rising one. The Soviet Union and China had their own cold war, which fully thawed after Mikhail Gorbachev visited Beijing in 1989. Now, says Alexander Lukin, of the Moscow State Institute of International Relations, relations between the two states are at an all-time high. A dispute over the border (one of the world's longest, and the cause of a war in 1969) was settled in 2004. More visibly, the two countries last year staged their first joint war games, involving around 10,000 troops. Given China's disdain for military alliances (it technically has one with North Korea, dating from 1961, which it would rather forget), staging the manoeuvres on Chinese soil was a big gesture.

Russia and China drew closer during NATO's air wars in the Balkans, which they both opposed. Since then they have made common cause against what both see as the risk of American “hegemony”. Both also see the United Nations Security Council, where they have permanent seats, as their best arena.

After September 2001, both were alarmed by America's new military presence in Central Asia (the Shanghai Co-operation Organisation, a regional grouping that they dominate, last year asked the Americans to set a date for their withdrawal). Both, too, resent foreign criticism of their domestic human-rights records, and outside meddling in what they see as illegitimate separatism in Chechnya and Taiwan. Solidarity on that issue was one message of the war games: though their stated purpose was to restore order in an imaginary country riven by ethnic fighting, they looked very much like a rehearsal for invading Taiwan.

The mutual attraction reflects positive factors too. China has long been the biggest buyer of Russian arms (the exercises were also an arms fair). Increasingly dependent on imported oil and gas, it wants to be a big buyer of Russian energy. Three new pipelines—two for gas, and one to bring Siberian oil to the border—are promised by Russia; and high prices have made it viable to deliver Russian oil by train.

Shi Yinhong, of Renmin University in Beijing, argues that ties with America are still more important to China than those with Russia. For China, the two relationships get in each other's way. For example, Russia participates in the six-way talks on North Korea; but China would prefer to monopolise diplomacy in that area, parlaying its supposedly close ties with Pyongyang into leverage with the Americans over Taiwan. Still, as Dmitri Trenin of the Carnegie Moscow Centre says, the Russia-China pairing is no longer merely a sort of diplomatic adultery, used by both to irk America: it has “a dynamic of its own”.

If America is relatively unperturbed by the Russian-Chinese dalliance, that may be because it sees it as fragile. Though geography and economics make the two countries natural partners, the distribution of land, people and resources also makes them rivals. Indeed, the interests now drawing them together contain the seeds of future competition, even conflict.

Take bilateral trade. It is booming, to around $30 billion last year. But it is still paltry compared with China's trade with America, and in important ways is disappointing for both sides. The Russians are peeved that China buys little Russian machinery and few manufactured goods. The Chinese, meanwhile, are grateful for the Russian weaponry, from fighter planes to submarines, that has helped modernise their armed forces. But it rankles that the Russians withhold some of their most advanced weapons, even as they sell them to India, which China still eyes with distinct suspicion.

The match between Russia's vast hydrocarbon reserves and soaring Chinese energy needs is fraught too. The Russians use the threat of redirecting oil and gas supplies eastward to pressurise their European customers. But prevarication over the construction of new pipelines has both undermined those threats and exasperated the Chinese. Russia has for years been tantalising both China and Japan with a possible pipeline to carry Siberian oil either to China or to the Pacific: a game designed to extract concessions (such as a Chinese promise to buy Russian nuclear technology) that has left both Asian states bitter. The oil pipeline plans are still murky; the gas schemes even sketchier.

Shared devotion to “multipolarity” in world affairs offers only a temporary bond. When China emerges as an undisputed pole in its own right, Russia will likely seek new partners to counterbalance Chinese power. Joint worries about America's role in Central Asia mask an underlying rivalry for influence and resources.

How these latent tensions are resolved will depend on political developments in both countries, and on how nationalistic each becomes. For Russian nationalists, China is both a threat and a solution to the problem of American power. But the equilibrium of fears may not last.

Any souring of relations will probably be felt first in Siberia and the Far East. It is striking that, in Irkutsk and elsewhere, fretful Russians always say the really big Chinese communities are somewhere else. But nobody can agree on where—in fact nobody knows how many Chinese there are in Russia. Though some Chinese settle, most are temporary visitors. Talk of the “yellow peril” is as old as it is irrational: Tsarist-era Vladivostok had a special police department to deal with the Chinese population. (Equally old is Russian awe of Chinese workers: a 19th-century writer said admiringly that they “don't drink, work one day after another, don't demand much, and are obedient.”)

Already, Russian politicians exploit the “yellow peril” fear. New federal rules limiting the role of non-Russians in retail markets, aimed at Caucasians in European Russia, will hit Chinese markets in the Far East too. But outsiders should not take heart: if warm Sino-Russian relations raise eyebrows in some quarters, a big falling out could be far be more troubling.

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Global news channels

Everybody wants one now

Nov 30th 2006 | PARIS
From The Economist print edition

A new fashion for state-owned English-language television news

IN A dull business district called Issy-les-Moulineaux, on the southern edge of the French capital, carpenters and technicians are working furiously to prepare for France 24, a new international news channel. The reception is still a building site, but the cameras and journalists inside look ready to roll. Four years ago, during the build-up to the Iraq war, President Jacques Chirac said France needed more weight in the “battle of images and airwaves”—and after much doubt and scepticism, the channel will start broadcasting next week.

France 24 is not alone: only last month al-Jazeera, a broadcaster based in Qatar, added an English-language news service to its controversial Arabic one. Iran is working on a new international channel called “Press”, China's government is believed to be considering one, and an entrepreneur is seeking money for a 24-hour pan-African news service in English and French. “It all adds up to a snowstorm of new channels,” says Chris Cramer, managing director of CNN International, an American-owned broadcaster which is now the principal provider of English-language TV news around the world.

The channels' common aim is to offer a different take on international news to that offered by CNN and the BBC, Britain's state broadcaster. CNN's coverage of the Iraq war, says Alain de Pouzilhac, France 24's president, was not objective: it reflected an American view that the invaders were trying to “bring freedom” to the country.

France 24 says it will try to spread French values: that means more attention to less well-covered parts of the world, constant debate of everything and more stress on “cultural development” as well as the economic kind. It has dropped a plan to broadcast only in French and will offer a second channel mostly in English—a sensible compromise, albeit shocking to some government ministers. Next year it will add some Arabic programming to the English-language channel. It has named a Frenchwoman, Agnès Levallois, to oversee the Arabic service to make sure journalists don't say “martyr” when they should say “terrorist”, as Mr de Pouzilhac puts it.

Whatever CNN's biases, as a private company it can claim complete independence from government. Al-Jazeera English (AJE), on the other hand, is owned by Qatar's royal family. France 24, an unusual joint venture between TF1, a private firm, and France Télévisions, a state-owned group, will get its annual funding of €80m ($105m) from the government. The money is guaranteed for five years at least. But unlike the BBC, which is paid for directly by viewers in order to ensure some distance from its political masters, the only guarantee of France 24's independence will be managers' willingness to say “no” when government officials call.

If there is heavy-handed government influence, viewers will notice, and switch off. “Russia Today”, an English-language news channel from the Russian government, has had little impact since its launch last December; neither has Channel NewsAsia, started in 1999 by a firm owned by Singapore's government to challenge Western dominance of the airwaves.

Perhaps the biggest obstacle for countries competing for media influence is getting distribution in America. Both France 24 and AJE will be available in much of Europe, the Middle East and Africa, in some cases free, and elsewhere on pay television. But France 24 will be available in America only in New York and Washington, DC, and cable and satellite companies have declined to carry AJE, so Americans can watch it only by paying for its internet service. France 24 blames protectionism from American media firms. Al-Jazeera's Arabic service has been sharply criticised by the Bush administration—and American companies may well be wary of a backlash against the English version.

Over time, says Steven Livingston, a media professor at America's George Washington University, AJE is likely to break through to the big cities because its impact will be felt elsewhere in the world and Americans will demand it. It has taken a while for the BBC's commercial news channel, BBC World, to get far in America, but its audience is now growing rapidly. In a recent study of what opinion leaders watch, its main news programme came sixth out of 52 news shows—ahead of well-known American shows.

And AJE is not, so far, courting controversy in the way its Arabic cousin does. It has tried to distance itself from the Arabic channel. With its glossy production style and Sir David Frost, a veteran of the BBC, as star presenter, AJE resembles any Western news channel—except that it has so far devoted most of its coverage to places outside Europe and America.

For audiences, having more news channels should be a boon. But they are expensive, and in many places the burden will fall on taxpayers. Some lucky people (in America, especially) may get the chance to channel-hop their way through news services from all over the world without having to subsidise them. But they will hardly bother to strain their index fingers unless governments learn a bit of subtlety.

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Gay rights

Until death do us part

Nov 30th 2006 | JOHANNESBURG, OTTAWA AND TEL AVIV
From The Economist print edition

Success and setbacks in the campaign for gay marriage

AP

South African marriage has a new meaning

AT THE beginning of December, bells will ring out across South Africa as couples take advantage of a new law allowing same-sex marriages—in a continent where homosexuality has long been reviled as deviant and "un-African". South Africa will become the fifth country in the world to grant gay couples both the status and attendant rights of a heterosexual marriage. Less than a fortnight earlier, in another landmark, Israel agreed to recognise such unions if performed abroad.

Two steps forward, then, in the march toward the universal recognition of gay marriage? Well, yes and no. South Africa's new law was forced on a reluctant Parliament by a court ruling last year that the lack of any legal provision for gay marriage was unconstitutional. After apartheid, South Africa adopted one of the most liberal constitutions in the world, outlawing discrimination on the basis of "sexual orientation" as well as the familiar grounds of race, religion and sex. Three other states—Ecuador, Portugal and Fiji—have such clauses, but none has been tested by gay-marriage advocates.

Israel's grudging change of heart was also imposed by a court ruling. In a 6-1 decision on November 21st, its Supreme Court ordered that same-sex marriages performed abroad must be recognised by the state, just as heterosexual unions, sealed abroad, are already. The law on marriage inside Israel remains restrictive: for Jewish citizens, a religious ceremony, as laid down by the rabbinate, is the only kind recognised. The new ruling did not make clear whether gay couples will get all the same rights—tax, adoption, inheritance, hospital visiting and so on—as married heterosexuals. Meanwhile, some Orthodox Jewish legislators say they may introduce a bill to ban same-sex marriages.

Five years after the Netherlands became the first country to legalise gay marriage, it is still not clear whether the global battle is being won or lost. In Canada, thousands of gay couples have been rushing to tie the knot before the Conservative-controlled Parliament votes next week on whether to review a federal law legalising gay marriage, passed under the former Liberal government. In last year's election campaign, Stephen Harper, now prime minister, pledged a free vote on the issue.

In America, seven more states passed constitutional amendments last month limiting "marriage" to a union between a man and a woman. A majority of states (27) now have effective constitutional bans against gay marriage; 43 have statutes outlawing it. This is not good news for those hoping for a ruling in favour of gay marriage when the issue comes before the Supreme Court. Only one American state, Massachusetts, has so far legalised gay marriage (in 2004). Four others—Connecticut, Vermont, California and New Jersey—offer gays similar legal rights as in a marriage, but within a civil union. Under America's 1996 Defence of Marriage Act, marriage is defined as a union between a man and a woman. But individual states can still adopt their own definitions.

The issue remains deeply divisive in America, where two voters out of three oppose marriage for gays. This summer, George Bush backed a constitutional amendment banning such unions, but a bill to that effect failed to get the needed two-thirds majority in Congress.

In Britain, where a small majority of the population backs gay marriage, it is not clear which way the tide will turn. In

December 2005 the government brought in a new “civil partnership” offering gay couples all the same rights as in a marriage, without the actual label. It was just a matter of time, many thought, before that distinction was discarded. But a High Court ruling this summer granted only “civil union” status to same sex marriages performed abroad. Any other view might undermine “an age-old institution, valued and valuable, respectable and respected, as a means not only of encouraging monogamy but also the procreation of children...”, the judge said.

A pair by any other name
Gay marriage legislation
Gay marriage legalised
Belgium, Canada, Netherlands, South Africa, Spain, US (Massachusetts)
Same rights as for married heterosexuals, but in civil unions or partnerships
Britain, Denmark, Finland, Iceland, New Zealand, Norway, Sweden, US (California, Connecticut, New Jersey, Vermont)
Civil unions or partnerships with lesser rights
Argentina (1 state), Czech Rep., France, Germany (3 states), Hong Kong, Ireland, Luxembourg, US (Hawaii, Maine)
Source: The Economist

Paradoxically, similar language is now being used by gay-marriage advocates. Not all gays want to marry, of course; but some are as keen as their straight friends to see their partnership recognised and protected by such a “valued and respected” institution. Gay-marriage supporters also reject the argument based on children, pointing to America's changing social reality. Of 600,000 gay couples identified in the last census, 28% were raising children against 46% for married couples.

But will such views prevail? Robert Wintemute, professor of human-rights law at King's College, London, thinks so. “The long-term trend is toward the universal acceptance of gay marriage,” he says. “It's just like the vote for women. It begins in one liberal country and then spreads around the world.” Maybe—but if such a trend exists in Islamic states where homosexual acts are seen as a sin, often punishable by death, it is hard to detect.

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Cat and mouse, on the web

Nov 30th 2006
From The Economist print edition

Technology and society: Techniques to evade censorship of internet traffic are improving, to the chagrin of authoritarian regimes

FOR a website lashed together in a week by a college student, Anonymouse.org is not to be sniffed at. Alexander Pircher, a computer-science student in Darmstadt, Germany, created the site in 1997. Users simply type a web address into a box on the Anonymouse home page and click a button, and the Anonymouse server (rather than the user's own computer) fetches the page and displays it. To many people this might seem pointless: rerouting data through another server makes for slower surfing, fonts and graphics are sometimes slightly skewed and video may not work properly.

But for many others the manoeuvre is anything but pointless, for this redirection allows them to surf the web anonymously. It enables people living under repressive regimes to visit censored websites because, technically speaking, they are only visiting Anonymouse.org. More than 3m people access the web through Anonymouse.org every day and Mr Pircher, who now upgrades his software with help from friends, says he receives plenty of thank-you messages from censorship-dodgers in countries like Cuba, Iran, North Korea and Saudi Arabia. “We're bringing people the Universal Declaration of Human Rights,” he says, referring to Article 19 of the United Nations document, which says freedom of information is a fundamental right.

Anonymouse.org is not alone. It is part of a large and growing constellation of similar computer servers, known as proxies, put online for the most part by activists living in free countries. These proxy servers play a central role in the global struggle to outsmart censors working to protect undemocratic regimes from political and social dissent. Mokhtar Yahyaoui, a lawyer in Tunisia, says that in his country proxies “are pretty much the only way to get information that's not official government information”.

But censors have an effective countermeasure. Once they identify a proxy, they can block access to it, just as they block access to other sites. The difficult part is finding the proxies, but the software used by censors, called censorware, is getting better at it. China's censors are leading the way. The estimated 30,000 government censors behind the world's most elaborate censorship programme—known as the Great Firewall of China by detractors, and as the Golden Shield by the Communist Party—work hard to hunt down proxies and prevent them from relaying data into the country.

The anti-censorship community is developing new ways to evade censors in response. For example, when China blocks a proxy (Anonymouse.org's fate in that country), internet users can find a replacement by consulting a growing number of websites that compile and post lists of working proxies. E-mailed newsletters that provide links to proxy servers are also available. Some anti-censorship organisations spread the word via instant-messaging services: people looking for a proxy simply send an instant

message to one of these groups and immediately receive an automated reply with a recently updated list of proxies.

These methods work because it usually takes censors a little while to identify and block new proxies. China's censors are probably the fastest to react, but even then some proxies survive for a week or more, in part because the firewall is maintained by a complex network of private and state-controlled telecommunications operators, and national, provincial and municipal government agencies that don't always act in concert. Lesser-known proxies handling small amounts of traffic generally go undetected the longest, sometimes for months. “It's a game called cat and rat,” says Mao Xianghui, a partner in an investment firm in Shanghai. His blog provided advice on using proxies to sidestep censorship, until authorities shut it down last year.

An American non-profit group called Tor operates one of the most robust anti-censorship systems. Using money provided by America's Naval Research Laboratory and the Electronic Frontier Foundation, a free-speech advocacy group, Tor developed free software that can be downloaded from many websites. The software works in conjunction with a web browser (the developers recommend Firefox) to encrypt traffic and route it through three proxy servers chosen at random from a network of around 1,000 proxies run by Tor volunteers worldwide. This makes it difficult for censors to determine what information is being sent, where it came from, and who received it. A Tor spokeswoman says many human-rights groups advise their activists in authoritarian countries to use the software to avoid government snooping.

This is not the only tool available to activists. In June of last year Huang Qi, an outspoken human-rights activist from Chengdu, China, was released after serving five years in prison on charges of subversion. He promptly downloaded a free “circumvention” programme that had been developed during his detention. Now, when Mr Huang opens his browser, the software, called Wujie, automatically searches the internet until it locates a functioning proxy server through which to connect. “It opens the doors to the world,” he says.

Censorship firewalls rely heavily on keyword-blocking software, which can catch and block e-mails and instant messages containing words and phrases deemed dangerous. Bill Xia, a Chinese dissident living in North Carolina, employs a number of tricks to sneak words past censors. He is the founder of Dynamic Internet Technology, a company paid by the American government's International Broadcasting Bureau to e-mail more than 2m pro-democracy *Voice of America* and *Radio Free Asia* newsletters into China and Vietnam every day. To foil keyword filters, Mr Xia replaces sensitive words such as “freedom” and “elections” with uncommon or approximate synonyms, or descriptive phrases. He inserts random characters, such as asterisks, between Vietnamese letters or the ideograms that make up Chinese words. Other techniques include writing words in a mixture of several fonts, replacing parts of words with syllables that sound similar, and replacing words with pictures of those words.

Employing such ruses makes for tedious writing and choppy reading. And having to bother with proxy servers to surf the web can be a hassle. But for those who are victims of censorship, the increasingly elaborate efforts required to outmanoeuvre censors are liberating, empowering and well worth the effort.

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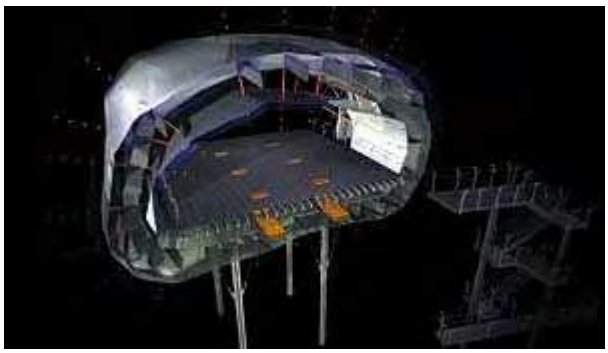
Buildings with minds of their own

Nov 30th 2006
From The Economist print edition



Architecture: “Responsive” buildings, capable of changing shape and responding to their users' needs, are on the drawing board

WHAT if architects could build living systems rather than static buildings—dynamic structures that modify their internal and external forms in response to changes in their environment? This provocative idea is making waves in the field of architecture. Houses, for example, might shrink in the winter to reduce surface area and volume, thus cutting heating costs. They could cover themselves to escape the heat of the summer sun or shake snow off the roof in winter. Skyscrapers could alter their aerodynamic profiles, swaying slightly to distribute increased loads during hurricanes. Office buildings could reconfigure themselves to improve ventilation.

Such “responsive architecture” would depend on two sorts of technology: control systems capable of deciding what to do, and structural components able to change the building's shape as required. Architects have been working to improve the control systems in buildings for many years, but shape-shifting technology is at a much earlier stage of development.

One approach being pursued by researchers is to imitate nature. Many natural constructions, including spiders' webs and cell membranes, are “tensegrity systems”—robust structures made up of many interconnected elements which can be manipulated to change shape without losing their structural integrity. “These structures can bend and twist, but no element in the structure bends and twists,” says Robert Skelton of the Structural Systems and Control Laboratory at the University of California in San Diego. “It's the architecture of life.”

While Dr Skelton is working on solving the engineering equations associated with tensegrity systems, Tristan d'Estrée Sterk at the Office for Robotic Architectural Media & the Bureau for Responsive Architecture, an architectural practice based in Vancouver, Canada, has begun to construct prototypes of shape-changing “building envelopes” based on tensegrity structures. Lightweight skeletal frameworks, composed of rods and wires and controlled by pneumatic “muscles”, serve as the walls of a building; adjusting their configuration changes the building's shape. Mr Sterk is also developing the “brain” needed to control such a building based on information from internal and external sensors.

Anders Nereim, chairman of the department of architecture and designed objects at the School of the Art Institute of Chicago, is not convinced that a central brain is the best way to control a responsive building, however. He suggests that the building should instead resemble a decentralised ecological system and should be made up of many independent sensors and actuators. Some of his prototypes include shadow-seeking lights that move around, and curtains made of flexible solar panels that use the energy they collect to open and close themselves. “Distributed systems can recover from damage,” says Mr Nereim.

Cars are already capable of monitoring their own performance and acting with a certain degree of autonomy, from cruise-control systems to airbag sensors. Such responsive behaviour is considered normal for a car; architects argue that the same sort of ideas should be incorporated into buildings, too.

And just as the performance of a car can be simulated in advance to choose the best design for a range of driving conditions, the same should be done for buildings, argues Gian Carlo Magnoli, an architect and the co-director of the Kinetic Design Group at the Massachusetts Institute of Technology. He is devising blueprints for responsive houses. “We need to evolve designs for the best performing responsive-building models,” he says.

So will we end up with cities of skyscrapers that wave in the breeze? It sounds crazy. But, says Mr Sterk, many ideas that were once considered crazy are now commonplace. “Electricity was a batty idea, but now it's universal,” he says. The same was true of suspension bridges and elevators. Dynamic, intelligent, adaptable buildings are “the logical next step”, he claims.

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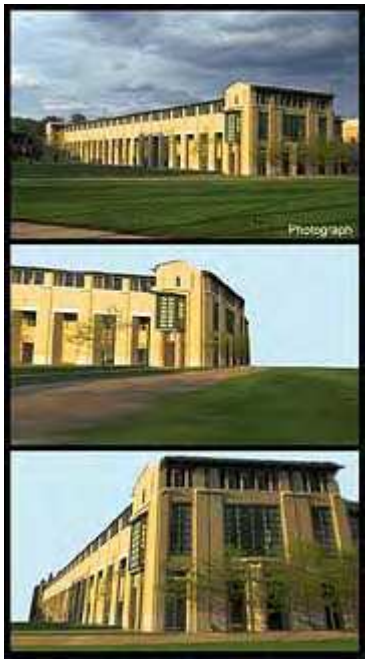
It all depends on your point of view

Nov 30th 2006
From The Economist print edition

Computing: New techniques analyse two-dimensional pictures to produce detailed three-dimensional models of the world

COMPUTERS can look, but they cannot see. Cheap digital sensors can act as their eyes, but programming machines to make sense of what they see is extremely difficult. Even when they can identify faces and vehicles, computers' inability to understand context results in ludicrous mistakes, such as finding faces in clouds or cars halfway up trees. Humans, by contrast, are able to construct a mental model of a scene from a photograph by taking into account the relative sizes of recognised objects, the laws of physics and some basic common sense. Now several research groups are building new computer-vision systems to enable computers to do the same thing.

Researchers at Carnegie Mellon University believe they have achieved a breakthrough in the reconstruction of three-dimensional models from two-dimensional images (pictured). Their system analyses photographs of outdoor scenes, identifies “sky” and “ground” regions, and looks for visual cues that distinguish horizontal surfaces from vertical ones. It then reconstructs the scene by cutting and folding the original image, taking into account the constraints that apply in the real world: skies are blue, horizons are horizontal and most objects sit on the ground. “In our world things don't just float,” says Martial Hebert, who co-developed the software with his colleagues Alexei Efros and Derek Hoiem.



No special glasses required

Using multiple images of a particular object or scene reduces ambiguity and makes possible more accurate three-dimensional reconstructions. That is the approach taken by Photosynth, a system being developed by researchers at Microsoft's Live Labs, a joint venture between the software giant's research arm and its MSN portal. Photosynth trawls the internet for digital photos of a place or object. Each photo is analysed to extract hundreds of distinctive features, and images that share particular features are linked together. The software then works out the relationship between the features to generate a three-dimensional model through which users can navigate.

What might such systems be used for? Pascal Fua of the Ecole Polytechnique Fédérale de Lausanne, in Switzerland, has built a system that analyses video footage from a single camera to reconstruct how an object moves in three dimensions. He and his team are using the technology with the yacht *Alinghi*, the present holder of the America's Cup. The idea is to improve the design of the yacht's sails by analysing how they behave under actual sailing conditions, thus dispensing with the need for expensive wind-tunnel tests that might not have been able to reproduce racing conditions accurately.

Dr Fua's technology is also being developed for surveillance applications. The aim is to combine video and still images from a network of video cameras, on the ground and in the air, to generate a constantly updated three-dimensional representation of an area under surveillance, tracking and analysing individuals and groups and triggering alarms if appropriate. This project, called Dynamic Visual Networks, involves a consortium of European firms and universities.

Richard Radke of the Rensselaer Polytechnic Institute in New York is working in a similar vein. He is developing software to allow hundreds of cameras, working together in small groups, to analyse their surroundings. Wireless camera “nodes” could be randomly sprinkled in large numbers over the area of interest, which might be a battlefield or the scene of a natural disaster. Each one would compose a list of distinctive features it could see and then quiz its neighbours to see if they could see any of the same features from their vantage points. By combining the results gathered, it would then be possible to reconstruct the scene. In future, some of the cameras might even be able to crawl or fly to fill in further

detail.

Constructing detailed, real-time three-dimensional models of places from swarms of tiny cameras—a virtual model of a real scene—would have mind-boggling applications. Relief workers could fly through a model of a disaster area to look for survivors and guide rescue helicopters. Soldiers could look around corners or inside buildings before launching an attack. And security guards could patrol a wide area by whizzing around it in virtual rather than real space. What of the implications for privacy and civil liberties? Like the technology itself, it all depends on your point of view.

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Always greener

Nov 30th 2006
From The Economist print edition

Materials: The technology of synthetic grass has moved on since the days of AstroTurf. A new form of fake grass has taken root

PLAYING football in the driving rain, with the mud flying, is a rite of passage for teenagers the world over. But for how much longer? Mud-free synthetic grass is slowly taking over playing fields, especially in America. More than half of the country's National Football League (NFL) teams have it, at least on their practice facilities. Thousands of high schools and colleges have also installed fake grass, and the number is rising fast. The leading synthetic supplier is FieldTurf, a Canadian firm that started out in the late 1980s selling tennis and golf surfaces, and then moved into soccer, football and lacrosse. Even FIFA, the international soccer federation, has approved it in recent years.

Corbis

FieldTurf has moved onto AstroTurf's lawn

The idea of fake grass is hardly new. For decades managers have looked for alternatives to natural grass, which is costly and difficult to maintain. The 1970s and 1980s were boom times for AstroTurf, made from heated nylon. It was first used in 1966 in Houston's Astrodome (recently famed for hosting evacuees from Hurricane Katrina). Some likened it to a rug, others to concrete, and players complained that it caused knee injuries.

But a new generation of fake grass has revived the industry. Strands of artificial grass made from polyethylene fibres are sewn into a base and are then surrounded and supported by a granular mixture that simulates soil. In the case of FieldTurf, this mixture contains sand, the ground-up soles of training shoes and rubber granules made from old tyres, which are cryogenically frozen, shattered and then ground up. All this is carefully laid down atop a bed of gravel, with drainage pipes to let water run off. It resembles grass, but with a plastic sheen and black sandy granules at its roots.

Lots of teams are installing it, largely because maintenance is so easy. In damp climates, real turf gets torn up by constant use. In dry ones, it demands constant watering. Synthetic turf suffers from neither problem, and also suits indoor stadiums. Rainfall helps keep it clean: water seeps through the rubber and drains into pipes just below the surface. FieldTurf also makes machines for annual deep-cleaning. The drawback is the cost. Fake grass costs nearly twice as much as sod to install, though it costs less to maintain.

As with AstroTurf, some players dislike the new surface. There are worries that it heats up unnaturally in the hot weather; Troy Squires of FieldTurf says the increase in temperature is minimal. Baseball, which likes grass, and women's field hockey, which prefers old AstroTurf for faster play, are still resisting FieldTurf, says Andrew McNitt, a turf specialist at Pennsylvania State University.

The product will no doubt continue to improve. FieldTurf is looking at new materials: instead of gravel underneath the surface, it might start using recycled plastic tiles, which would be faster and cheaper to

install. And it is seeking out new markets, too—perhaps, says Mr McNitt, in home putting greens, or in lawns in the hot, dry south-west. It might not be as pleasant as grass between the toes, but it is very convenient.

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The joy of physics

Nov 30th 2006
From The Economist print edition

Video games: Software that encapsulates the laws of physics is a key ingredient in making games more realistic

IF YOU found studying physics at school difficult or tedious, you may well have wished for a pill that could impart instant knowledge of the subject. Alas, no such pill exists—but the designers of video games routinely use something very similar as they strive to make their games more lifelike. By dropping in a "physics model"—in essence, a lump of software that encapsulates how objects behave in the real world—they can teach their games to understand physics. What is the use of photo-realistic graphics and surround sound, after all, if in-game items do not behave realistically?

Mythical creature, realistic physics

Gamers really began to take notice of physics models with the release in 2004 of "Half-Life 2". Objects in the game roll down slopes and bounce realistically off each other; wooden items splinter when shot at and can be set on fire; metal items create sparks when scraped against walls. This is not just eye candy: many of the puzzles in "Half-Life 2" exploit the realism of the physics model. A seesaw can be turned into a ramp by placing blocks on one end, for example.

"The Elder Scrolls IV: Oblivion", a role-playing game released in March, also includes strikingly lifelike physics. One internet video-clip features a vast room in which thousands of books have been lined up like dominoes in intricate patterns. The first volume is tipped over and hits the second book, starting a chain reaction of toppling books, swords, vegetables and other objects arranged in increasingly elaborate configurations.

As well as enhancing the realism of the game world, realistic physics is also being incorporated into the gameplay. "Dark Messiah of Might and Magic", a fantasy game in which you fight using wizardry and weapons, also allows you to dispatch enemies in unexpected ways using the physical environment itself as a weapon. You can, for example, cast a spell to create a patch of ice on the ground, causing other characters in the game to slip over. In combination with a narrow ledge and a fall off a steep cliff, this can prove deadly. "Physics allows for environments and gameplay situations that aren't scripted," says Scott Miller of 3D Realms, a veteran of the video-games industry. He pioneered the use of three-dimensional graphics in games, and predicted as long ago as 2001 that physics would become an increasingly important means to enhance realism still further.

The firm that dominates the field of in-game physics is Havok, based in Dublin, Ireland. Its physics engine is used in over 150 games, including "Half-Life 2", "Oblivion" and "Dark Messiah", and to generate special effects in films. (Other physics engines include PhysX, Newton, Tokamak and Bullet.) Convincing game developers to adopt its technology was not easy, says David O'Meara, Havok's boss. "It's not an overnight success, it's been hard work," he says. Developers at first preferred to develop their own

physics models; it was not until 2003, he says, that the logic of buying one off the shelf and then customising it for a particular game became generally accepted.

New games are in the pipeline that will further extend the use of physics models. One example due to be released in 2007 is “Mercenaries 2”, being developed by Pandemic Studios of Los Angeles, California. “It should be the ultimate demonstration of what physics in gameplay is,” says Andrew Goldman, Pandemic's boss. It will be possible to pour petrol on the ground, watch it spread out and then set fire to it. “Physics is more than how a stack of crates falls over,” says Mr Goldman. As game worlds become more complex, with more items and more elaborate possibilities, there is more need for a physics model to determine how items in the game world behave, he says. “That's what physics opens the door to—crazy emergent worlds,” says Mr Miller. It is all proof that physics need not be boring after all.

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Treasure on the ocean floor

Nov 30th 2006
From The Economist print edition

Robotics: It might make sense to mine metals from the sea bed, rather than from terrestrial mines. But it will require some nifty technology

IN THE 1960s and 1970s, the idea of mining the ocean floor was all the rage. But despite millions of dollars of investment, the commercial extraction of manganese nodules never became reality. Today, deep-ocean mining is done only by the oil and gas industry. Yet the dream of mining the mineral wealth of the deep has never gone away. Now two firms hope to succeed where others have failed.

Nautilus Minerals, based in Vancouver, is the more advanced of the pair. It has an exploratory licence from Papua New Guinea and has already begun drilling operations 1,600 metres below sea level off the east coast of the country. There dormant hydrothermal vents are a rich source of metal sulphides that the firm hopes to exploit for gold and copper. Another company, Neptune Minerals, based in London and Sydney, has completed test drilling in the deep waters near New Zealand. Nautilus went public on Canada's TSX exchange in May, raising $22.7m; Neptune raised $16.3m on London's AIM market in 2005.

Nautilus's deep-water exploration relies on a modified deep-sea remotely operated vehicle (ROV) of the kind normally used in the oil and telecoms industries. It has a manipulator hand containing drilling and cutting tools that allow the robot to retrieve samples of rock from the ocean bed. So far the drilling has only been exploratory, but the prospects look good. Deposits in terrestrial copper mines, such as those in the Andes, contain less than 1% copper, and accessing them is difficult and expensive: the tops of huge mountains and vast areas of land must be removed. David Heydon, the boss of Nautilus, says that his firm's underwater samples, which are literally cut and lifted off the sea floor, contain 10% copper.

The presence of these rich deposits has been known about for years, says Steven Scott, a geologist at the University of Toronto. He has been researching underwater geology since the 1980s, and in the 1990s he co-discovered the deposit that Nautilus is exploring. So why has it taken so long to move towards the commercial exploitation of deep sea massive sulphide deposits? Mr Heydon says it is because the ROV technology has only recently become capable enough. He eventually hopes to use rock-cutting ROVs that will drive across the sea floor, grinding ore as they go and sending it to the surface via a tube at a rate of 400 tonnes per hour. It might also be possible to lift large deposits using compressed air.

All of this can be done, Mr Heydon believes, for about half as much as opening a new land-based mine. Nautilus has spent about $12m in the past year on exploration, and Dr Scott says one test drilling found deposits 19 metres deep. Unlike manganese nodules, which are like golf balls scattered across the seabed, these deep-ocean deposits occur in small areas around extinct hydrothermal vents. Such concentrated deposits ought to make underwater mining highly efficient.

Even if the economics stack up, however, Nautilus and Neptune must overcome concerns over environmental damage. Dr Scott argues that underwater mining will be far less disruptive to the environment than terrestrial mining: there will be no piles of waste rock, since the deposits are directly on the sea floor. And whereas the oil industry lays pipelines underwater, mining would not leave any permanent structures behind. But governments will need to be convinced of the merit of these arguments before mining can begin.

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Shockingly slow

Nov 30th 2006
From The Economist print edition

Communications: The delivery of broadband internet access over power lines is finally starting to make progress

FOR more than a decade, broadband over power lines (BPL) has been hailed as a promising "third-wire" into the home, alongside telephone wires and cable-television networks. By piggybacking internet data on existing electrical wiring, goes the theory, electrical utilities can boost choice for consumers and open up a lucrative new market for themselves. Yet the technology has been slow to arrive—until now.

TXU Electric Delivery, an American firm, will deploy the service to 2m homes and 250,000 businesses in Texas by the end of 2008. The company is working with Current Communications, a BPL provider, to install over 400,000 "smart meters" throughout its network in 2007. This will enable TXU to read meters remotely and detect potential failures before they occur, as well as providing internet access. In Europe SIPPEREC, a French electrical utility, says it will wire up 1.5m homes and apartment buildings in the suburbs of Paris. Previously, BPL had been limited to trials in a few thousand homes in America and Britain.

The roll-out of BPL was held up by two problems. The first was that running data over power lines can cause radio interference with wireless devices, something that particularly bothers amateur radio-operators, known as "hams". But new rules that went into force in America in July 2006, and will go into effect in Europe in July 2007, define how BPL providers can avoid or at least manage the problem of leakage. This has reassured previously wary utilities and BPL equipment-makers that spectrum rules will be enforced in a fair and consistent way.

The second problem is that the "step-down" transformer—which converts a medium-voltage supply from the grid to a lower voltage appropriate for use in a home or office—interferes with the flow of data. As a result, utilities must install special equipment to route the data around the transformer, which adds to the cost of the service. This problem is now being overcome through an electrical-networking standard called HomePlug, which allows BPL providers to send the signal past the transformer with less fiddling than was previously required.

Even so, the technology still has its limitations. BPL can carry about 100 megabits per second (Mbps) on a medium-voltage mains cable, and each cable serves around 20,000 people in cities and a few hundred in rural areas. Domestic broadband connections typically operate at speeds of 2Mbps or higher, so the speed of a BPL connection will not be very great if there are many users, even though new equipment being tested in Europe can increase the capacity.

So why are utilities pushing ahead with the technology? Because it is useful to them, too. Utilities often find out about failed transformers, dangerous faults or neighbourhood blackouts only when irate customers or safety officials call to complain. "The technology used in the delivery business—the meter on your house—is 75 years old," says Tom Baker, the chairman of TXU.

His firm is paying Current $150m over ten years to establish a "smart grid" which will be able to detect power problems and control appliances remotely. TXU expects to make big savings by replacing equipment before it fails, pinpointing power cuts and even briefly reducing the amount of energy certain appliances consume with the consent of the subscriber, says Mr Baker.

An air conditioner, for example, could be remotely turned down a bit when required in order to prevent a blackout. Mr Baker envisages that in a few years' time, customers with smart appliances will receive electricity bills that break out power usage by device. And combining internet access with power-management services that help consumers reduce their energy bills could give BPL companies a valuable way to differentiate themselves from traditional broadband providers.

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Tracking your every move

Nov 30th 2006
From The Economist print edition

Communications: Mobile phones that can work out where they are using satellite technology are proving to have a variety of uses

SCOTT MCNEALY of Sun Microsystems, a computer-maker, once said he could imagine a day when doctors would “slap a baby's bottom” and then insert a locator chip into the newborn child's neck. “That's not Big Brother; that's dad,” he said. Although they are not at the chip-insertion stage, some families in America and elsewhere have already embraced Mr McNealy's child-tracking call. They have started buying child-friendly mobile phones outfitted with GPS (Global Positioning System) technology.

These phones and their related tracking services allow parents to pinpoint the location of their children with ease. Parents agree to pick up the phone bill in return for the reassurance of knowing where their children are; children are prepared to put up with the snooping if they are allowed to have a phone.

As in other aspects of mobile technology, Japan has claimed the lead with GPS-equipped tracking devices. Consumers can buy products ranging from trackable mobile handsets to school blazers with GPS tags attached. Mobile operators in America are now launching tracking services too. Under a federal mandate known as E911, they had to upgrade their networks to ensure that anyone dialling the 911 emergency number could be located to within 100 metres. Some operators opted for triangulation technology, which determines the location of the handset by comparing the signals received by different base-stations. But Verizon and Sprint chose to adopt the more expensive but more accurate GPS technology instead, and are now looking for ways to make money from it.

Verizon calls its service “Chaperone”. For $10 a month, parents can call up the location of their child's LG Migo handset from their own mobile phones, or from a PC. The child receives a message saying that the handset's position has been requested, and the parents receive an address, or a marker on a web-based map, giving the child's location. For an extra $10 per month, they can sign up for Child Zone, a service that, among other things, fires off an alert when a youngster (or, at least, the youngster's handset) strays outside a specified area.

For its part, Sprint has launched a similar service that can also let parents know when a child arrives at a particular location, such as school or a friend's house. Disney Mobile, a Disney-branded mobile service that relies on Sprint's network, also offers a tracking service.

Another location service is available from Nextel, a mobile operator that was taken over by Sprint in 2005. Nextel opened up some of its systems to enable other firms to build their own software and services on top of its GPS technology. One example is AccuTracking, a small company which offers a tracking service for $6 a month and boasts that it is “ideal for vehicle tracking” or to keep “virtual eyes on kids”. Some customers are also using the service to track their spouses, by hiding phones in their cars. “Mine is hidden under the hood, hot-wired to the battery—it works very well and it is easy to hook up continuous power,” writes one customer on AccuTracking's message board, who is tracking her husband.

Less suspicious types in Silicon Valley recently used the AccuTracking service for an art project. They created wooden sculptures of local technology icons, such as Bill Hewlett and Dave Packard, the founders of Hewlett-Packard, and Robert Noyce, the co-founder of Intel, and outfitted them with GPS-capable mobile phones. The “hitchhikers” were then placed around America with messages on their backs asking

people to help them reach a specific spot in Silicon Valley. Mario Wolczko, an engineer at Sun, wrote software that linked AccuTracking with Google Maps so that the figures' journeys could be followed on the web (see www.ylem.org/Hitchhikers/).

Start-ups are working on everything from city-wide games of hide-and-seek to monitoring the locations of Alzheimer's patients. Services that monitor jogging routes, and work out distance travelled and calories consumed, might also prove popular. Ken Hyers, an analyst at ABI Research, predicts that tracking services could be worth $2 billion a year in North America by 2011, up from about $30m this year. But he concedes that such lofty figures have been bandied about for years. What has changed, however, is that the operators seem to be getting over their worries about privacy and liability and have started to roll out services.

As a result, mobile operators, handset-makers and start-ups could transform and expand a small, specialist market hitherto dominated by expensive, dedicated tracking systems. Delly Tamer, the boss of LetsTalk.com, an online mobile retailer, likens the coming GPS wave to the arrival of camera-phones a few years ago. Child-tracking is the obvious service to start with, he says, but is only the beginning. “I believe that GPS will be successful this time around, but that it will be driven by applications we haven't even thought of yet,” he says.

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Roaming holiday

Nov 30th 2006
From The Economist print edition

Communications: New gizmos that combine audio guides with satellite tracking let tourists explore cities at their own pace

WHEN Melissa Mahan and her husband visited the Netherlands, they felt imprisoned by their tour bus. It forced them to see the city according to a particular route and specific schedule—but going off on their own meant missing out on the information provided by the guide. On their return home to San Diego, California, they started a new company called Tour Coupes. Now, when tourists in San Diego rent one of their small, brightly coloured three-wheeled vehicles, they are treated to a narration over the stereo system about the places they pass, triggered by Global Positioning System (GPS) satellite technology.

This is just one example of how GPS is being used to provide new services to tourists. “What we really have here is a technology that allows people to forget about the technology,” says Jim Carrier of IntelliTours, a GPS tourism firm which began offering a similar service over a year ago in Montgomery, Alabama. The city is packed with sites associated with two important chapters in American history, the civil war of the 1860s and the civil-rights movement a century later. Montgomery has a 120-year-old trolley system, called the Lightning Route, which circulates around the downtown area and is mainly used by tourists. On the Lightning Route trolleys, GPS-triggered audio clips point out historical hotspots.

Another GPS-tourism firm is GoCar Rentals, based in San Francisco. It provides open-air vehicles, using a scooter engine with a fibreglass frame, similar to those used by Tour Coupes. Customers must follow a prescribed route to hear the GPS-triggered information. This limits the scope for exploration, but Nathan Withrington, the firm's founder, says that people tend to visit the same few sites.

Other firms, such as CityShow in New York and GPS Tours Canada in Banff, Canada, offer hand-held GPS receivers that play audio clips for listening to while walking or driving. In South Africa, Europcar, a car-rental firm, offers a device called the Xplorer. As well as providing commentary on 2,000 points of interest, it can also warn drivers if they exceed the local speed limit.

If such services prove popular, the use of dedicated audio-guide devices could give way to a different approach. A growing number of mobile phones have built-in GPS or can determine their locations using other technologies. Information for tourists delivered via phones could be updated in real time and could contain advertisements. “Location-based services”, such as the ability to call up a list of nearby banks or pizzerias, have been talked about for years but have never taken off. But aiming such services at tourists makes sense—since people are more likely to want information when in an unfamiliar place. It could give mobile roaming a whole new meaning.

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Doughnut adjust your set

Nov 30th 2006
From The Economist print edition

Electronics: As home-entertainment systems become more elaborate, so do their remote controls. How can they be made simpler?

HAVE you ever seen anything on television that made you shout or shake your fist in anger at the screen? Televisions are, of course, unable to respond to such reactions. But that could be about to change. Controlling your television and other home-entertainment devices using voice commands or gestures is starting to become possible thanks to a new generation of controllers.

Consider, for example, the controller that went on sale last month with Nintendo's Wii games console. In place of the usual (sometimes baffling) combination of buttons and joysticks, the Wii has a motion-sensitive controller. The console can determine how the controller is moving in space and what it is pointing at, and uses that information to control what is happening on screen. Depending on the game, the controller becomes a warrior's sword or a golf club.

For some games, the controller connects up via a cable to a second, smaller handset called the “Nunchuk” after the weapon favoured by Bruce Lee in his martial-arts movies (two batons linked by a chain). It is then possible to use one controller for movement, and the other to fire weapons or use items. The number of buttons on both controllers has been reduced to a minimum, as Nintendo hopes to draw in new customers who find existing games consoles too complicated. But whether the Wii will introduce a generation of grandmothers to the joys of karate games remains to be seen.

Several other firms have also developed innovative control systems for other devices. As DVD-players, digital video-recorders and cable and satellite decoders proliferate, controllers have become more complicated and more numerous. Some remote controls even have tiny alphabetic keyboards to enable e-mails to be sent through the television, and it is not unusual to see four or five controllers sitting on a single sofa.

This living-room overload is likely to get worse as telecoms operators launch a new generation of television-over-broadband services, using a technology called IPTV. This will make possible thousands of channels, downloadable programmes and films, plus messaging, internet access and games. It will also involve the biggest and most complicated controllers ever seen. “The experience isn't as good as it could be,” says Michael Cai of Parks Associates, a consultancy. So some companies believe a new approach is needed.

Hillcrest Labs, a start-up based in Rockville, Maryland, has developed an eye-catching new remote control shaped like a doughnut, which allows users to select channels by pointing or moving the device in three dimensions. The company has licensed its technology to a number of manufacturers which will announce their first products in early 2007, says Chad Lucien of Hillcrest.

Other companies have looked at using speech-based controllers in the living room. One firm, Promptu, developed a voice-control system for American cable operators and tested it in conjunction with Motorola, which makes set-top boxes. But it has now decided to reposition the technology as a voice-based navigation system for mobile phones. A simpler approach is taken by the InVoca voice-activated remote control. It is a universal remote control that can recognise 50 separate commands spoken by up to four separate users, from “lower volume” to “Cartoon Network”.

A recent entry to the field is Apple Computer, a firm renowned for designing elegant, easy-to-use products. In 2007 it will launch a new device, called the iTV, that acts as a bridge between a television and a computer. It has a deliberately simple remote control that, like Apple's iconic iPod music-player, involves just one button and one wheel. Steve Jobs, the company's boss, boasts that it is “very Apple”. Might his company be the one to solve the remote-control confusion?

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News you can choose

Nov 30th 2006
From The Economist print edition

New media: "Social news" websites allow readers to generate virtual newspapers by voting stories on and off their front pages

WHEN you fire up your web browser to read the latest news, the choice of news sites and blogs is overwhelming. So you may decide to go to a trusted, traditional media outlet to read the stories selected by its editors. Or perhaps you have set up your own personalised filtering system, either via a configurable news site, or by combining news feeds from your favourite sites. You may prefer to put your trust in software and let the algorithms at Google News choose the most important stories. And lately another option has emerged: visiting a "social news" site where readers choose the stories and vote for those they find most interesting.

Digg.com, the most famous example of the genre, allows users to submit interesting new items from around the web, relating to politics, technology, celebrity trivia or anything else. Other users say whether they find the stories interesting by "Digging", or clicking on them. The most frequently "Dugg" stories appear on the front page. Users can add a warning to an item if they believe it to be biased or inaccurate, and a comment system allows people to discuss stories at length.

Digg has become an internet phenomenon. It has over half a million registered users and has been valued at over $200m despite having just $3m in revenues and no profits. Its success has spawned similar sites such as Reddit and Newsvine, and prompted the world's largest media company, Time Warner, to turn its ailing Netscape.com news portal into a social-news service instead.

The items that make the front pages of social-news sites are very different from those found on traditional news sites. Technology features heavily, as do humorous, quirky and inane stories, while business, politics and world affairs feature less prominently, if at all. This summer stories about the Israeli-Lebanese war did appear, especially at the start of hostilities, but by the third week the war was struggling to make the front pages, having been pushed aside by such vital subjects as ultra-hot chilli sauce.

Though their news values might horrify a conventional editor, social-news sites have been feted as the future of media—Digg has even been called the "New *New York Times*". Of course, much of this hoopla is ridiculous. Digg creates no original content, instead relying heavily on the traditional media to provide its stories. And the website for the *New York Times* attracts 13 times as much traffic as Digg, according to recent figures from Hitwise, an internet-research firm.

Furthermore, Digg and Netscape have heavy users who behave, in effect, rather like editors: most of the stories that end up on Digg's front page are submitted by a very small band of hardcore users. Since its launch in 2004, the 100 most active users submitted more than half of the stories that reached Digg's homepage.

Even so, Digg does have some lessons for old-fashioned news publishers. Providing links to Digg or other social-news sites can be a good way to bring in readers. Many websites now put a "Digg it" button below their stories, to make it easier for readers to submit items to Digg. Moreover, Digg has a massive readership among under-30s, an audience which traditional news outlets are trying and largely failing to attract, online and off. Evidently its readers are interested in a certain amount of serious news, provided there are also offbeat and light-hearted stories—such as those about ultra-hot chilli sauce—to spice up the mix.

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And the winners are...

Nov 30th 2006
From The Economist print edition

Innovation Awards: Our annual prizes recognise successful innovators in seven categories. Here are this year's winners

THIS newspaper was established in 1843 to take part in “a severe contest between intelligence, which presses forward, and an unworthy, timid ignorance obstructing our progress”. One of the chief ways in which intelligence presses forward is through innovation, which is now recognised as one of the most important contributors to economic growth. Innovation, in turn, depends on the creative individuals who dream up new ideas and turn them into reality.

The Economist recognises these talented people through its annual Innovation Awards, presented in seven fields: bioscience, computing and communications, energy and environment, social and economic innovation, business-process innovation, consumer products and a flexible “no boundaries” category. The awards were presented at a ceremony in London on November 9th by John Micklethwait, *The Economist*'s editor-in-chief. And the winners were:

Innovation is blowing in the wind

• Bioscience: **Marvin Caruthers**, professor of chemistry and biochemistry at the University of Colorado at Boulder, for the development of **automated DNA synthesis**—the ability to “print out” arbitrary strands of genetic material. Dr Caruthers's methods were licensed to Applied Biosystems, which subsequently became one of the largest life-science instrument companies in the world. Automated DNA synthesis has been essential in such fields as chromosome mapping, genomic sequencing and the study of interactions between DNA, RNA and proteins.

• Computing and communications: **Janus Friis** and **Niklas Zennström** of Skype, for the development of internet file-sharing and telephony using **peer-to-peer technology**, which allows millions of computers to link up over the internet without central co-ordination. In 2000 Messrs Friis and Zennström launched KaZaA, which became the dominant means of sharing music and video files, despite attempts by the entertainment industry to shut it down. Skype, launched in 2003, lets users make free phone calls over the internet, forcing traditional telecoms operators to slash their prices.

• Energy and environment: **Johannes Poulsen**, former chief executive, Vestas Wind Systems, for the **commercialisation of wind energy**. In 1987 Mr Poulsen took the helm at Vestas, then a small Danish firm with 60 employees. By the time he retired in 2002, Vestas had 5,000 employees and a quarter of the world market for wind turbines. Under Mr Poulsen, Vestas greatly improved the efficiency of wind turbines, reducing costs and making wind power more competitive.

• No boundaries: **Pierre Omidyar**, founder and chairman of eBay, for the development of **electronic marketplace technology** and his promotion of access to markets as a tool for social change. Mr Omidyar set up eBay in 1995 with the aim of creating a marketplace accessible to any internet user. The business was profitable by 1996. People all over the world buy and sell items in 45,000 categories; some even make a living trading on eBay.

• Social and economic innovation: **Hernando de Soto**, founder and president of the Institute for Liberty and Democracy, for the promotion of **property rights and economic development**. Mr de Soto argues that bureaucracy and the lack of formal property rights are major causes of poverty in developing countries. Red tape and the lack of legal title to property, preventing its use as collateral, make it hard for the poor to establish or expand businesses. While serving as economic adviser to the Peruvian government, Mr de Soto initiated a property-titling scheme which helped 1.2m families. Similar reforms

have been implemented in El Salvador, Haiti, Tanzania and Egypt. Mr de Soto has also championed the use of league tables to shame governments into cutting red tape.

• Business-process innovation: **Sam Pitroda**, chief executive of WorldTel, for pioneering **India's communications revolution**. In 1987 Mr Pitroda was asked by Rajiv Gandhi, the Indian prime minister, to help democratise access to telecommunications. His response was to deploy instantly recognisable yellow telephone kiosks in every town and village. This helped to release India's telecoms industry from state control and opened it up to private firms, paving the way for a technology boom. He now promotes similar policies in other countries.

• Consumer products: **Nicolas Hayek**, chairman of Swatch, for **revitalising the Swiss watch industry**. During the 1980s Switzerland's legendary watch industry fell into decline, with exports falling by half within a decade as a result of Japanese competition. Mr Hayek's response was to consolidate the industry to create the Swatch Group. It went on to beat the Japanese at their own game, creating the bestselling watch brand in history and becoming the largest watchmaker in the world, with a quarter of the market.

We extend our congratulations to the winners, and our thanks to the judges: Martin Cooper, chairman and chief executive, ArrayComm; Rodney Ferguson, managing director, Panorama Capital; Daniel Franklin, executive editor, *The Economist*; Lisa Gansky, director, Dos Margaritas, co-founder, Ofoto; David Goeddel, vice-president of research, Amgen; François Grey, head of IT communications, CERN; Victoria Hale, chairman and chief executive, Institute for OneWorld Health; Georges Haour, professor of technology and innovation management, IMD; Vic Hayes, former chair, IEEE 802.11 working group; Leroy Hood, director, Institute for Systems Biology; Paul Jackson, principal analyst, Forrester Research; Fujio Masuoka, professor, Research Institute of Electrical Communication, Tohoku University; Yoichiro Matsumoto, professor and dean of engineering, University of Tokyo; Edward McBride, energy correspondent, *The Economist*; Louis Monier, research scientist, Google; Andrew Odlyzko, professor of mathematics and director, Digital Technology Centre, University of Minnesota; Stanford Ovshinsky, president, chief scientist and technologist, Energy Conversion Devices; Jagdish Parikh, chairman, Allied Lemuir; Andrea Pfeifer, chief executive, AC Immune; Navi Radjou, vice-president, enterprise applications, Forrester Research; Rinaldo Rinolfi, executive vice-president, Fiat Research; Paul Romer, professor of economics, Graduate School of Business, Stanford University; Paul Saffo, director, Institute for the Future; Tom Standage, *Technology Quarterly* editor, *The Economist*; Vijay Vaitheeswaran, health-care correspondent, *The Economist*; Muhammad Yunus, managing director, Grameen Bank.

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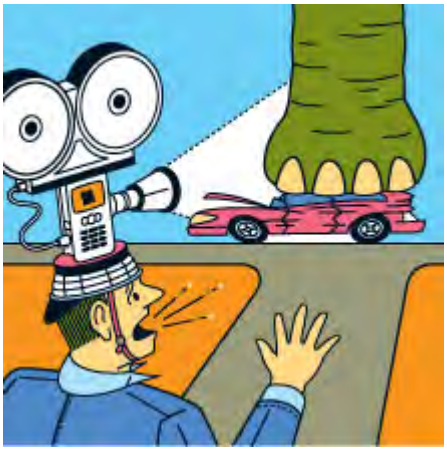
The phone of the future

Nov 30th 2006
From The Economist print edition

Communications: The phone has had a splendid 130-year history. What will it look like in future? Will it even be called a phone?



AT THE 1964 World's Fair in New York AT&T unveiled the Picturephone. In the future, the world's biggest telecoms firm pronounced, people would communicate via round, black-and-white screens that plugged into the wall. That prediction, like so many others about the future of communications, was wrong. The majority of today's phones are mobile handsets, not fixed-line ones, and although the technology for video-calling is widely deployed, hardly anyone uses it.

And yet speculation about the future of phones persists, and no wonder. The telephone has changed beyond recognition since its invention in 1876, and is now both the most personal, most social and most rapidly evolving technological device. So to imagine the phone of the future is also to imagine the future of consumer technology, and its personal and social impact. What mobile phones will look like in a year or two is easy to guess: they will be slimmer and probably will let you watch television on the move. But what about ten or 15 years from now?

The remote control for life

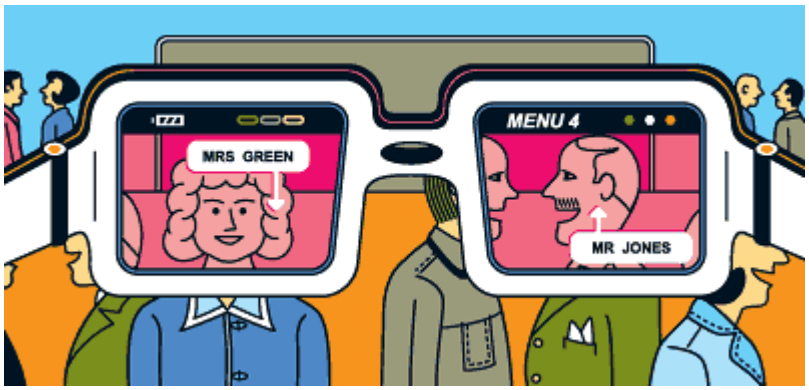
Making such predictions is a dangerous business, but it can also be informative and entertaining. The chances are that phones will not only look very different—they may not even be seen. They may be hidden in jewellery or accessories, or even embedded in the body. They will undoubtedly have a host of additional features and novel uses, and users will probably interact with them in new ways, too. And even if they are still called “phones”—a word derived from the Greek word for voice—making voice calls may no longer be their primary function.

“The cellphone is not a telephone. It is a—I don't know what it is. A communications device? A tool I carry in my pocket?” says Don Norman of the Nielsen Norman Group, a consultancy, and author of “The Invisible Computer”, a book that predicts that computers will eventually be so integrated into everyday items that they will vanish. Bruce Sterling, a science-fiction writer whose future caught up with him, and who now writes books about contemporary design and technology, believes phones will be “remote controls, house keys, Game Boys, flashlights, maps, compasses, flash drives, health monitors, microphones, recorders, laser pointers, passports, make-up kits, burglar alarms, handguns, handcuffs and slave bracelets.” In short, he believes that the phone will be “the remote-control for life”.

One thing that is clear is that phones will pack a lot more computing power in future, and will be able to do more and more of the things that PCs are used for today—and more besides. Mats Lindoff, the chief technology officer at Sony Ericsson, a leading handset-maker, points out that the processing power of mobile phones lags behind that of laptop computers by around five years. Furthermore, studies show that people read around ten megabytes (MB) worth of material a day; hear 400MB a day, and see one MB of information every second. In a decade's time a typical phone will have enough storage capacity to be able to video its user's entire life, says Mr Lindoff. Tom MacTavish, a researcher at Motorola Labs, predicts that such “life recorders” will be used for everything from security to settling accident claims with insurance firms.

Researchers at Nokia, meanwhile, speculate that within a decade, the cost of storage will have fallen so far that it might be possible to store every piece of music ever recorded in a single chip that could be included in each phone. It would be necessary to update the chip every so often to allow for new

releases, of course. But this could open up new business models that do not depend on downloading music over the airwaves; instead, the phone could simply exchange brief messages with a central server to unlock purchased tracks or report back on what the user had listened to for billing purposes.



Another trend is towards phones that double as both fixed and mobile devices, using cellular networks when outdoors and switching to fixed networks, accessed via a short-range radio link to a small base-station, when indoors. In effect, your mobile phone will double as an indoor cordless handset, both at home and in the office. Early attempts to do this have been clunky, but the technology will get cheaper and simpler within a few years. Meanwhile, distance and voice-based pricing are going away too, so that before long many subscribers will probably pay a fixed monthly access fee for unlimited phone calls and data transfers.

Although extrapolating from today's phones by following technology trends can provide some clues about their future direction, the danger with this approach is that it risks overlooking discontinuities in their evolution. For example, if you had been told in 1991 that telephones would double as music-players in 2006, you might have assumed that this would involve some smaller version of CDs. Hard-disk storage was bulky and expensive, and the use of solid-state memory to store music would have seemed outlandish. Similarly, in the era before digital photography, it would have been hard to believe that most phones would also double as cameras. Where would the film go?

No doubt other new functions will be incorporated into phones. But which ones? Given their uniquely personal nature—some people feel naked without their handsets—it seems likely that they might subsume the other two items that are generally carried everywhere, namely wallets and keys. In Japan, phones can already be used to make purchases in shops: a wireless chip in the phone communicates with a special reader at the till. The same “near field communication” chips enable phones to be used as train tickets and office passes, so acting as front-door keys or car keys as well would not be a giant leap. Indeed, the mobile phone may end up acting as a universal controller for other electronic devices of all kinds, suggests Alan Harper of Vodafone, a big mobile operator.

The shape of phones to come

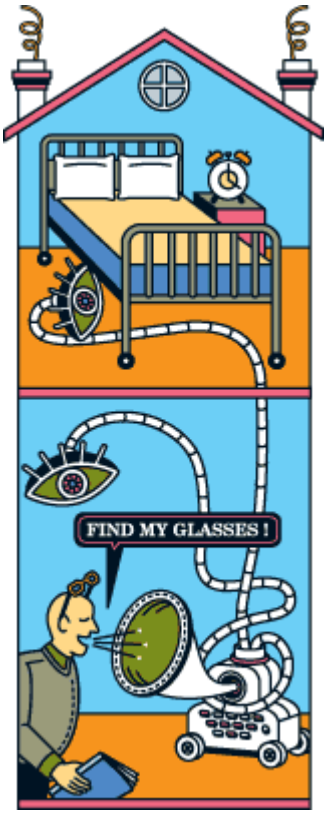
The appearance of mobile phones is certain to change as new features continue to be added. Already, the clear trend in phone design is towards ever greater diversity. The debate over whether the phone would emerge as the digital “Swiss Army Knife” and cram in as many features and functions as possible is over, says Bruno Giussani, the author of “Roam”, a book about the mobile industry. Instead, handset-makers now make different devices optimised for particular tasks such as music, photography or e-mail, and combinations thereof. The next step, suggests Stephen Randall of LocaModa, a wireless-services firm, will be a great decoupling, as the screen, keypad and earpiece start to become separate components, or are replaced by other completely new technologies.

Combining all of these components in a single device, as today's phones do, means that keyboards and screens must be small; make them too big and the phone becomes too bulky and ceases to be a device that can be carried everywhere. Separate earpieces, linked to the handset by a Bluetooth radio link, are already growing in popularity. Some users might choose to hook up separate screens and keyboards when needed, such as when answering e-mail or browsing the web. Already, early examples of such technologies exist.

And there are even more elaborate alternatives. Tiny projectors inside handsets could allow walls, tabletops or screens made of flexible materials to be used as displays while on the move, suggests Jeff

Wacker, a futurist at EDS, a technology-services firm. Some firms are also developing displays built into glasses, in order to do away with the screen altogether. This approach also makes it possible to overlay information on the real world, which could be useful when giving directions. Your phone might even label people at a party or conference to remind you of their names.

Or perhaps it will discreetly whisper their names in your ear. Today's earpieces may give way to smaller devices hidden in earrings or worn as minuscule patches on the skin near the ear. It would then be possible to listen to your phone or music-player while still hearing the ambient sounds of the environment. Today's earbuds are either in or out; future earpieces will give users the option of adding a discreet soundtrack to their everyday lives.



As for input devices, technology exists to beam a “virtual keyboard” onto a flat surface; a separate sensor then tracks finger movements to determine which “keys” have been pressed. But entering data into a phone might ultimately be done not with fingers but with speech—or even directly by the brain. The keypad is a vestige of the rotary dial, which itself is an artefact of the switch from human operators to direct-dialling in the 1920s. Today, numbers are on the wane thanks to the ease with which mobiles can store and retrieve names and the ubiquity of e-mail addresses and other internet-based identity tags, such as Skype names. Phone numbers may become as invisible to users as the underlying internet-protocol addresses of websites are to people surfing the web.

Voice-recognition systems have improved somewhat in recent years, but are still not reliable enough for entering a text message or an e-mail. But voice may turn out to be an interim technology. Researchers are developing sensors that pick up the subtle changes in the larynx and mouth when words are formed, even if there is little or no air going through the windpipe. So future phones might simply be able to lip-read using a sensor hidden in your collar.

Other researchers are looking into the use of brainwaves to interface directly with machines. One technique, developed by Cyberkinetics Neurotechnology Systems, was reported in the journal *Nature* in July. It involves implanting a chip in the brain which allows paralysed people to move a computer cursor by thinking in a certain way. A less invasive approach relies on electrodes on the scalp to pick up brain activity. Stuart Wolf, a physics professor at the University of Virginia and a researcher for the American military, suggests that within 20 years people will use their thoughts to communicate not only with machines, but also with each other—doing away with talking into phones entirely. Telephony could give way to telepathy.

Unexpected consequences

It is one thing to speculate about the technical possibilities of future phones, but quite another to imagine the social consequences. In the 1980s nobody foresaw that mobile phones would become anything more than executive playthings; and the runaway success of text-messaging took the entire industry by surprise. Similarly, the failure of video-telephony is rooted in social rather than technological causes. It is a mistake, in short, to consider technology in a vacuum. Social factors play a crucial role in determining which technologies end up being adopted, and how they are used.

Marty Cooper, known as the “father of the cellphone” for his work in developing the first mobile phones at Motorola, recalls that he only became aware of the device's full potential as a result of actually using it. His secretary called him on his prototype mobile phone as he was getting into his car to drive to a meeting to say that it had been cancelled—thus saving him from a wasted journey. But explaining the benefits of being able to change plans on the fly to potential customers was difficult, he says, so the first phones were marketed instead on the basis that they could make people more productive, by allowing them to work while on the move. But today the idea of “approximeeting”—arranging to meet someone without making firm plans about time or place, and then finalising details via mobile phone while out and about—is commonplace.

Just as the benefits of a new technology can be hard to predict, so too are its unexpected drawbacks. Concerns over privacy and security could derail plans to turn phones into electronic wallets or universal keychains, for example. Phones that know more about their owners could do all kinds of new things, but

could also raise new concerns. There will certainly need to be powerful authentication techniques to ensure that phones can only be used by their legitimate owners, says Mat Hunter of IDEO, an international design firm. Already, some phones have built-in finger scanners for just this purpose.

Mobile phones have already changed social practices among their users, and seem likely to do so even more in future. The ability to superimpose images and sound upon reality means that future phones will "create layers on our world", says Pierre de Vries of the Annenberg Centre for Communication at the University of Southern California. Users will always be connected, he says, but in concentric circles of conversations and interactions that range from people right next to them to those far away.

"When I try to make predictions, I don't look at what I see in the technical realm, I look at what I see in the social realm," says Mr Norman. He has recently been investigating how children interact with each other and with technology. "They are never alone with their own thoughts," he says. Instead, they listen to music while texting and talking with friends next to them. "We are learning that we never have to be away from people," says Mr Norman.

Phones could also change how people interact with things, as well as other people. In 15 years' time, when everything from shoes to shirts to sunglasses could well contain tiny wireless chips, people may use their phones to communicate with objects as well as talking to people, suggests Mr Lindoff. You could then use a search engine not just to find information on the internet, but to find objects in your home. "I want to search my home via Google—I want to find my green shirt," says Mr Lindoff.

No doubt much of this speculation about the future of the phone will prove to be as misguided as AT&T's vision of the Picturephone back in 1964. Indeed, it may be that the whole idea of a telephone comes to be seen as an anachronism, as personal digital devices take on a bewildering range of new functions. Already, researchers at Motorola like to talk about "the device formerly known as the cellphone". What it will be called in future, and what it will do, remain fascinating questions.

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Biometrics gets down to business

Nov 30th 2006
From The Economist print edition

Biometrics: Body-scanning security technology is finally taking off—and not just because governments are adopting it

Getty Images

FOR many people, “biometrics” conjures up images of a Big Brotherish surveillance society. But tell them they could save a few precious seconds at the supermarket checkout just by waving their fingers over a scanner, and they will sign up in their millions.

After more than a decade of hype, biometrics—the use of body measurements such as eye scans or fingerprints to determine or verify identity—is finally taking off. And all it took to convince the public of its merits, it seems, was the promise of shorter queues or a few extra loyalty points. In the past year there has been an explosion in the commercial use of biometrics, utterly eclipsing the uphill efforts of various governments to introduce identity cards and passports that store electronic signatures derived from facial images, fingerprints or eye scans.

In America more than 3m customers now regularly pay for goods at the supermarket, chemist or convenience store just by scanning their fingers and punching in a personal-identification number (PIN) rather than using credit or debit cards. Similarly, in Japan more than 2m people now use contactless palm-scanners when they want to withdraw cash from a cashpoint. And in the next few months ABN AMRO, a Dutch bank, will be rolling out a new telephone-banking system to its 4m customers that can verify each user's identity using voice analysis.

And this appears to be just the beginning. Many laptops, and even a few mobile phones, now ship with built-in finger scanners. Domestic applications, such as biometric front-door locks, garage doors and safes, are also available. There are online services that can be accessed only if the rhythm and other characteristics of your typing match a stored template of your “keystroke dynamics”. There are even memory sticks or flash drives secured with built-in thumbprint scanners.

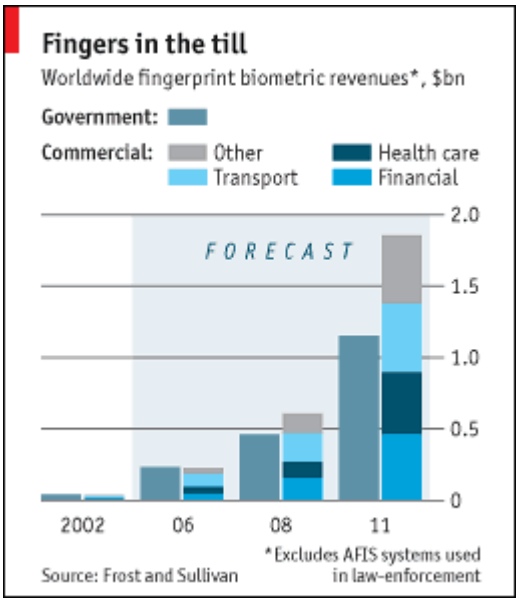
For a long time it was assumed that biometrics would be a government-led technology, says Sapna Capoor, an analyst at Frost and Sullivan, a consultancy. But in the past couple of years this has quietly started to change. “There has been a group of biometrics vendors who have shifted away from working with governments and focused instead on commercial products,” she says.

One reason for this shift is that the technology has matured, says Michael Thieme of the International Biometric Group, an industry body based in New York. In the past many biometric technologies would not work on a broad section of the population. Some types of biometric scanners worked well in the laboratory, but ran into problems in real-world environments when scanning children, old people, people with small or sweaty hands, bricklayers or subjects with eye conditions. But the technology has since improved and is considerably more inclusive, says Mr Thieme. As a result it is finally reliable enough to be used in supermarkets and laptops.

New regulations in the financial sector have also boosted adoption, says Mark Upson, the boss of BioPassword in Issaquah, Washington, whose company has more than 400,000 online-banking users enrolled in its keystroke-dynamics security scheme. In a bid to tighten security and reduce online fraud and identity theft in online banking, America's Federal Financial Institutions Examination Council is pressing banks to adopt “two factor” authentication, says Mr Upson. Previously, account holders had to provide only a single means of identity verification, such as an account number and password. Two-factor systems rely not just on something you know, however, but also on something you have, such as an electronic token, or something you are, in the form of a biometric.

Electronic tokens can be expensive, and must be carried by users at all times to ensure access. “You can also give them to someone else,” says Charles Palmer, chief technology officer for security and privacy at IBM Research in Yorktown Heights, New York. That is not the case with biometrics, so the technology's appeal is obvious, he says. Telephone banking has been going through a similar trend, turning to biometrics to improve security, says Vance Harris of Voice Vault, a division of Biometrics Security, a firm based in Chertsey, England. It developed the voice-verification system soon to be rolled out to ABN AMRO customers. Since banks receive tens of millions of calls each year, it was important to find a way to authenticate people quickly and reliably, says Mr Harris.

But although adding an extra identity check to such financial transactions improves security, doesn't it also add complexity and inconvenience? After all, users still have to remember account numbers and passwords as before, but must now provide a biometric too. Fujitsu's palm-scanning system, which is being used in cashpoints by four big Japanese banks, is widely considered to be the most successful deployment of biometrics to date—yet it does not liberate customers from having to carry bank cards and remember PINs. A two-factor authentication system has been replaced by a three-factor system which is more secure but less convenient.



In contrast, the fingerprint-recognition system being used in some American shops, called Pay By Touch, appears to be more convenient but less secure, since shoppers are no longer required to present a bank card or cheque to buy things. Instead, they present a finger to be scanned and then enter a seven-digit “search code”, usually the same as their phone number. The combination of the finger-scan and the search code are then looked up in a central database, to ensure that they tally, before the transaction is approved. Since the last seven digits of a phone number are not unique and are in the public domain, the security of the system would be undermined if two users' fingerprints were similar enough to generate a false acceptance.

For banking, such lax security measures would be laughable. But for shops it is more than adequate, says Mr Thieme. In a shop, where the scanner sits by the till and is supervised by a clerk, a thief could not make repeated payment attempts without raising suspicion, so false positives are unlikely. In addition, the mere incorporation of biometrics into the payment system is likely to deter criminals, says Mike Bond, an expert in banking security at Cambridge University. And even if the system can be beaten occasionally, it may not matter. “If companies can make more money by getting people through checkout more quickly, then it's possible they could offset any losses incurred through fraud,” he says.

The point is that just because biometrics can be used to make systems extremely secure does not mean that the technology always has to be deployed in that way. In some applications a lower level of security is tolerable, says Mr Thieme. And in some cases biometrics can enhance both security and convenience, says Mr Harris. If you are using a phone-banking system, having to provide a passphrase is no less convenient than speaking a password to a human operator, and is more convenient than typing in a PIN. And because Voice Vault lets you set your own security question, the answer to which is used as the passphrase, it is easier than remembering a PIN.

Those in the industry believe the banking and retail approaches to biometrics—one of which puts security above convenience, the other convenience above security—will eventually converge, opening up new applications in the process. Mr Harris predicts that as confidence in biometric technologies increases, banks will start to peel away other security layers.

Setting the standard

Once standards become established, the use of biometrics could spread so that it is used to secure retail transactions made via the internet and mobile phones, not just in shops. At the moment the technology tends to be proprietary and application-specific. But as the industry matures and interoperable standards emerge, it is likely that the biometrics hardware and software used for one application could equally well be used for others.

AP

Credit, debit, or finger-scan?

For example, fingerprint sensors on laptops often come with software that lets the user run a “password safe”. Multiple user names and passwords for different websites are stored by the computer, which fills them in automatically once the user's identity has been verified with a finger-scan. The next logical step, suggests Alan Kramer of UPEK, a firm based in Emeryville, California, that makes finger-scanning systems, is to cut out the intermediate step and log into websites directly using the biometric itself. But this will mean devising new standards.

Using biometrics to secure transactions made using mobile phones, also known as m-commerce, looks promising too. “The killer app really is m-commerce,” says Scott Moody, the boss of AuthenTec, a firm based in Melbourne, Florida that makes fingerprint sensors. M-commerce is starting to gain traction in Japan and South Korea, where phones are used both to buy things online and as a wireless-payment system in some shops and railway stations. But once you can buy things with a wave of your handset, the need to secure it becomes apparent, and the first phones with built-in fingerprint readers have already appeared.

As governments grapple with schemes to introduce biometric passports and identity cards, companies are pushing ahead with biometrics on their own. And what is perhaps even more surprising than the commercial adoption of the technology is the speed and willingness with which the public is embracing it. This is unlikely to be because people trust big companies more than they trust governments. Instead, it is because the commercial applications of biometrics tend to place a greater emphasis on the benefits to the customer, so providing incentives for adoption. As governments start to foist biometrics on their citizens, they would do well to bear this in mind.

A recent survey found that air passengers would welcome biometric check-in procedures at airports if it meant less queuing, for example. People will embrace biometrics, it seems, provided there's something in it for them.

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Case history

New chips on the block

Nov 30th 2006
From The Economist print edition

Biotechnology: DNA chips have revolutionised biological research. This case history argues that they also have the power to make the practice of medicine much more precise

THE sequencing of the 3 billion letters of the human genome was a scientific milestone. But it posed a big challenge to researchers in biology, who had to deal with the ensuing deluge of data. An essential part of the solution turned out to be the DNA microarray, a tiny glass chip dotted with thousands of DNA fragments that can be used to measure the activity of genes or identify variations in people's genetic make-up.

Such DNA chips have revolutionised biological research. With the help of a microarray, researchers can query the whole genome at once, rather than just a few genes at a time. Experiments that used to be impossible are now being performed in days or hours. “By being able to see the big picture, all the genes, all the genetic variation, we can readily pick out answers—we can make discoveries that we could never make before,” explains Eric Lander, one of the leaders of the human-genome project.

In the past five years microarrays have become a staple in laboratories around the world. Thousands of research papers are published every year based on the technology. Microarrays have touched nearly every field in biology, including toxicology, virology and diagnostics, says Joe DeRisi, a biochemistry professor at the University of California, San Francisco, who made headlines in 2003 when he used a microarray to identify the virus that causes Severe Acute Respiratory Syndrome (SARS).

So far, the greatest impact of DNA chips has been in basic biology, allowing scientists to study which genes are active (or “expressed”) during normal or pathological cell processes and thus providing important insights into the functions of various genes. But in many cases those insights are now working their way into the clinic, either by helping in drug discovery or by aiding in disease diagnosis and treatment decisions.

In 2004 European and American regulators approved the first microarray-based medical test. Made by Roche, a pharmaceuticals giant, in collaboration with Affymetrix, a firm that makes DNA chips, the AmpliChip CYP450 can identify 31 genetic variations within two genes that affect how quickly individuals metabolise a variety of commonly prescribed drugs. Based on the test results, physicians can then select the most appropriate drug for the patient and adjust its dose to achieve optimal results. This provides a glimpse of the technology's diagnostic power.

How to build a DNA chip

The origins of DNA microarrays date back to the late 1980s, when biology was still a manual science and researchers had to spend weeks or months in the lab to gather data on a few genes. Some scientists began to think of new ways of mining more information from biological systems. The key, it turned out, lay in the miniaturisation and automation of analytical tools. Edwin Southern, a professor at Oxford University who became famous in the mid-1970s for inventing a DNA-analysis technique (now known as Southern Blotting), filed one of the earliest patents on microarrays in 1988. But the actual commercialisation of high-density DNA arrays was initiated several years later, spearheaded by a young scientist called Stephen Fodor.

In 1989 Dr Fodor had just been hired by the Affymax Research Institute in Palo Alto, California, a start-up that was developing new tools for drug discovery. There, he and his colleagues devised a scheme to marry photolithography, a technology used in semiconductor fabrication, to combinatorial chemistry. In 1991 they published a paper that made the cover of the journal *Science*, describing how photolithography could be used to direct light to activate the synthesis of biological compounds.

In a series of steps, photo masks either illuminate or prevent light from reaching different regions on a wafer coated with light-sensitive chemicals. At each step along the way, the surface of the wafer is flooded with a set of biological building blocks for either protein or DNA. A special coupling reaction ensures that these building blocks only stick in the areas exposed to light. As this process is repeated, thousands of distinct biological compounds can be built up in parallel in discrete areas of the wafer, in a variation of the process used to etch transistors onto a silicon chip. Although the *Science* paper focused on the synthesis of short molecules called peptides, Dr Fodor's plan was to build high-density arrays that would lend themselves to DNA analysis.

Around the same time, Patrick Brown, a professor of biochemistry at Stanford University School of Medicine, became interested in developing new techniques for mapping genes. He recruited Dari Shalon, an engineering student, to help him devise a simple, low-cost way to print thousands of long gene fragments onto a simple glass microscope slide. Unlike Dr Fodor's method, the Stanford researchers used pre-synthesised DNA strands, called probes, that were placed or “spotted” on the slide by a robot.

With the help of a microarray, researchers can query the whole genome at once, rather than just a few genes at a time

While the Stanford approach is much simpler from an engineering standpoint, both methods take advantage of the unique molecular structure of DNA, which consists of two complementary chains of nucleotide building blocks, or bases, that bond together and wind around each other. Each individual chain is composed of four bases, called A (adenine), C (cytosine), G (guanine) and T (thymine), that may occur in any order. But the way the two chains bond is entirely predictable: C always pairs with G, and A with T.

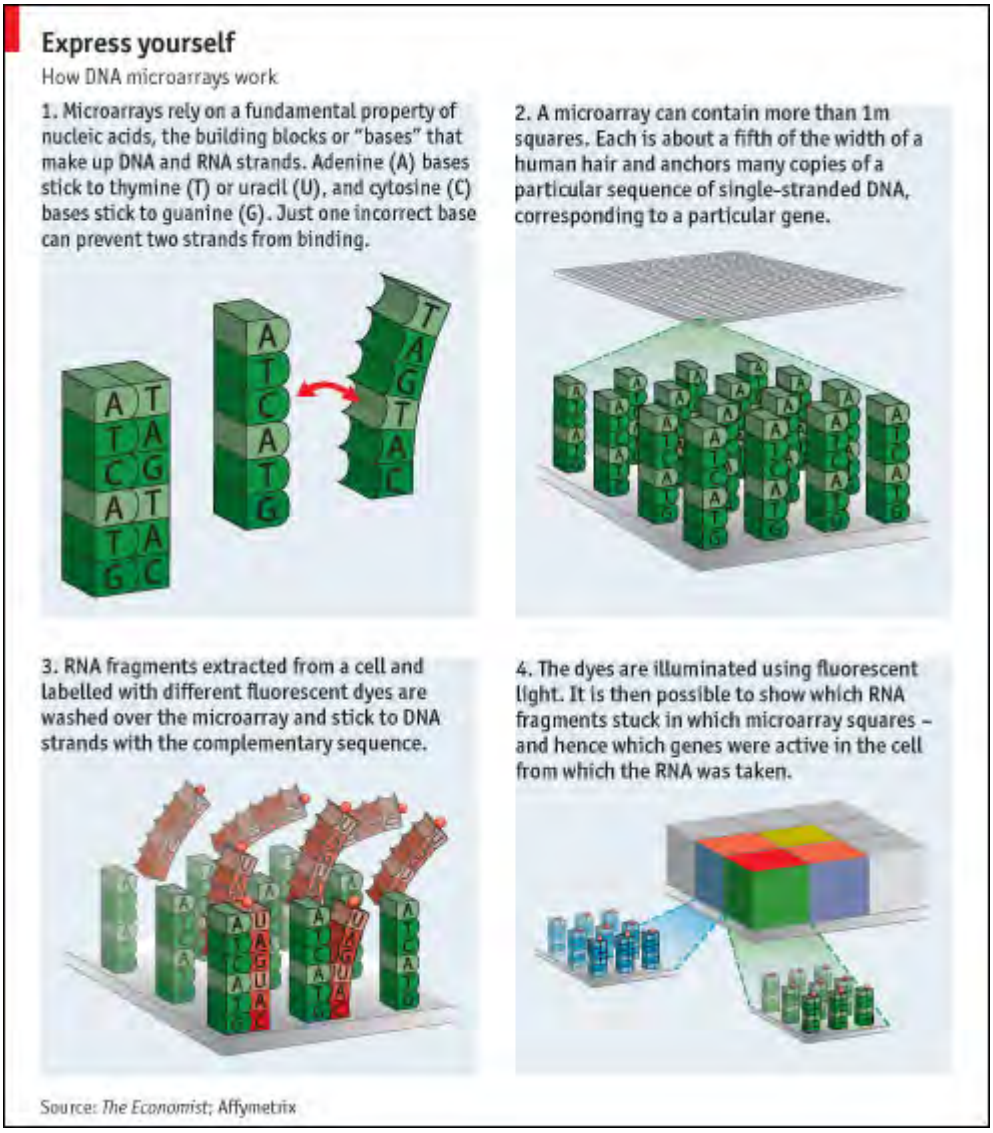
This natural affinity means that pieces of single-stranded DNA can be used as a probe to detect a particular sequence of DNA and its cousin, RNA. This, in turn, can be used to identify particularly active genes, which issue protein-making instructions in the form of messenger RNA. An array is created that consists of lots of fragments from genes of interest. To see which are active, RNA from cells under investigation is labelled with fluorescent dyes and is then poured over the array. If a gene is active, the RNA in the sample binds to the complementary gene fragment on the slide, and can be detected under ultraviolet light as a coloured dot. The same process can detect genetic variations if a sample of DNA, rather than RNA, is poured over a suitable array.

In the early 1990s both Dr Fodor and Dr Brown applied to America's National Institutes of Health (NIH) for grants to develop their respective DNA arrays—but at the time the utility of the devices was not apparent to many of their contemporaries. When a committee was sent to Affymax to decide if the firm should get the grant, its members questioned whether the technology could ever work or would ever generate meaningful data. And Dr Brown received one of the worst priority scores for an NIH grant he had ever seen.

Building blocks of success

Dr Brown did eventually manage to win funding for his proposal, but only by eliminating all references to the new technology in his grant application. Dr Fodor's grant was also approved, thanks in no small part

to the intervention of Leroy Hood, an eminent biologist with a reputation for spotting and developing important new technologies. In the end, Dr Hood single-handedly convinced his colleagues on the committee that the idea was worth pursuing. With about $3.5m of grant money in hand, Dr Fodor assembled a team of scientists and spun off a new firm, Affymetrix, in 1993.


Express yourself
How DNA microarrays work
1. Microarrays rely on a fundamental property of nucleic acids, the building blocks or "bases" that make up DNA and RNA strands. Adenine (A) bases stick to thymine (T) or uracil (U), and cytosine (C) bases stick to guanine (G). Just one incorrect base can prevent two strands from binding.
2. A microarray can contain more than 1m squares. Each is about a fifth of the width of a human hair and anchors many copies of a particular sequence of single-stranded DNA, corresponding to a particular gene.
3. RNA fragments extracted from a cell and labelled with different fluorescent dyes are washed over the microarray and stick to DNA strands with the complementary sequence.
4. The dyes are illuminated using fluorescent light. It is then possible to show which RNA fragments stuck in which microarray squares – and hence which genes were active in the cell from which the RNA was taken.
Source: The Economist; Affymetrix

Although the vast majority of today's DNA-microarray experiments involve the analysis of gene activity, it was not clear in the early 1990s which application would best lend itself to the technology. Affymetrix pursued the use of microarrays in DNA sequencing, pathogen detection and gene expression, but its first catalogue product was a chip for detecting mutations in HIV, the virus that causes AIDS.

Proof that DNA chips could be used to analyse gene activity, or expression, came in 1995. At Stanford, Dr Brown and Dr Shalon were looking for an experiment that would put their home-grown arrays to the test. They teamed up with another Stanford laboratory that was trying to measure the activity of genes within *Arabidopsis thaliana*, a type of mustard plant that is often used as a model organism in plant biology. The study, which was written up in *Science* and measured the activity of 45 genes, revealed widespread gene-expression differences between root and leaf tissue. The paper sparked great interest in the use of microarrays for measuring gene activity, which helped Dr Shalon attract customers for Synteni, his newly formed company, which offered gene-expression analysis on a service basis.

Affymetrix began to sell its first gene-expression arrays in the mid-1990s, most of which were shipped to pharmaceutical companies and scientific collaborators. Other researchers were clamouring for the chips as well, but the firm did not have the manufacturing capacity to meet demand. Moreover, the chips were not cheap, costing several thousand dollars each. And that did not include the equipment that was needed to produce and analyse the results, which cost $175,000.

To help other scientists gain access to the technology, Dr DeRisi, then a graduate student in Dr Brown's laboratory, posted detailed instructions on the internet explaining how to make home-brewed arrays.

Many scientists then started building their own microarray spotters and scanners for about $25,000.

Whether commercially produced or home-made, DNA chips had become more common in research labs by the late 1990s. A series of landmark studies had demonstrated their value, including the first successful whole-genome gene-expression experiment in 1997, for which Dr Brown's lab printed more than 100 chips, each one with DNA probes of the entire yeast genome, to analyse and compare gene activity under various conditions. In 1999 the journal *Nature Genetics* dedicated a special issue to DNA microarrays with an introductory essay entitled “Array of hope”.

Meanwhile, progress in sequencing the human genome was generating enormous excitement in the bioscience industry. Companies that were involved in (or claimed to benefit from) the project saw their share prices soar. The genome bubble, as some called it, did not leave the microarray industry unaffected. Companies, especially Affymetrix, profited from churning out chips that could probe larger and more comprehensive sets of genes. That encouraged others to enter the market. But Affymetrix, which had dominated the industry from day one, did not intend to give up its sovereignty easily. When Incyte Genomics, then a bioinformatics company based in Palo Alto, California, acquired Synteni for $90m in 1997, Affymetrix immediately sued Incyte for patent infringement.

At issue in the lawsuit was not the unique photolithographic method Affymetrix uses to make its arrays, but rather a fundamental claim to high-density arrays in general, regardless of the manufacturing method. The broadness of the claim irked many in the field, who complained that Affymetrix preferred courtroom battles to market competition. According to Ken Rubenstein, a biotechnology consultant based in California, the lawsuit also deterred venture capitalists from investing in promising new startups in the area.

Affymetrix refused to license Dr Southern's patents from Oxford Gene Technology (OGT), the firm he had founded in 1995 to commercialise his approach to making DNA arrays. Instead, Affymetrix bought a division of another company which already owned a licence to the patents, and claimed it had thereby acquired the right to use OGT's technology. Dr Southern and OGT were not pleased and sued Affymetrix for patent infringement in 1999. In the end, both lawsuits, with Incyte and OGT, were settled for undisclosed sums in 2001.

Microarrays have had a fundamental impact on biological research already, but doctors are only just beginning to tap their potential for medical use

Five years later, Affymetrix is still the dominant force in the industry, though a handful of competitors have gained a respectable piece of the $700m market for microarrays and associated instruments. Among them are Agilent, a spin-off of Hewlett-Packard, General Electric Healthcare and Illumina, which has done especially well in the emerging market for DNA chips that identify genetic variations. Such chips can provide important clues about predisposition to disease and response to therapy. Richard Fisler of Beachhead, a bioscience-consulting firm based in Utah, says such arrays made up 9% of the chip market in 2004 but are expected to grow to about 45% in 2009.

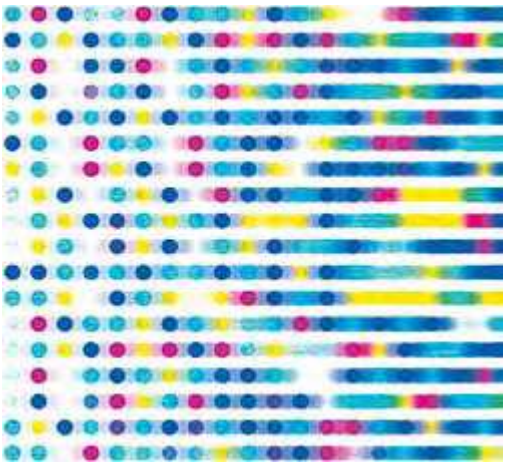
In 2004 Affymetrix launched another lawsuit, this time against Illumina, alleging that the firm had infringed several of its patents, even though many in the field regard Illumina's bead-based array platform as quite different from that of Affymetrix. Earlier this year, Illumina retaliated by filing counterclaims, accusing Affymetrix of “inequitable conduct as to each patent, antitrust violations and unclean hands”. The fight is still going on.

As microarray technology has become more robust, there are fewer reasons for scientists to make their own. Prices have come down, thanks to higher volumes, market competition and improved manufacturing techniques. In the mid-1990s less than 10% of Affymetrix chips passed its internal quality-control procedures; today close to 100% do. At the same time, many more types of chips have become available, including those that span the entire human genome.

Chips with everything

One field that has particularly benefited from microarray analysis is cancer research. In 1999 Todd Golub, then at the Whitehead Institute for Biomedical Research in Cambridge, Massachusetts, and his colleagues published a paper that for the first time classified cancers based on their gene-expression profiles or “signatures”, thus distinguishing leukaemias that—under a microscope—might appear to be the same. Since then researchers have identified many more such gene signatures that promise to classify cancers

accurately, identify the best treatments, and even predict how effective treatments will be.



A message in dots and dashes

At the forefront of developing such microarray-based diagnostics is Roche, which has several cancer tests in clinical development based on the AmpliChip platform. One of them will be able to distinguish about 20 different subtypes of leukaemia, and a second will be able to pinpoint mutations in the *p53* gene, which can affect a cancer patient's prognosis. “Looking at multiple markers is the future of diagnostics,” says Walter Koch of Roche Molecular Diagnostics.

Drugs giants such as Roche and Merck are also routinely using microarrays in their drug-discovery processes. In 2001 Merck acquired Rosetta Inpharmatics, a software firm specialising in the interpretation of gene-expression profiles. Today Rosetta's co-founder and former boss, Stephen Friend, is an executive vice-president at Merck, where researchers conduct about 40,000 microarray experiments a year. The results are put into a database, which now contains more than 200,000 entries, and interpreted using Rosetta's software. This has had a big impact on Merck's drug-discovery and development pipeline: microarrays have helped to identify drug candidates with potentially nasty side effects, which can then be refined or eliminated. About 20% of Merck's compounds now in clinical trials have been developed with the help of microarrays, says Dr Friend.

A similar public project is being carried out by the Broad Institute, a collaboration between the Massachusetts Institute of Technology and Harvard. Its researchers recently published a paper in *Science* about creating a new kind of database, dubbed the “connectivity map”. The idea is to express the action of drugs, genes and diseases in a common language—that of gene expression profiles, says Dr Golub, the director of the Broad Institute's cancer programme.

Software can then sift through the data, comparing the profiles to look for matches. Over the next two years, the aim is to identify signatures for all approved drugs in America and build up a much more comprehensive dataset. It should then be possible to discover new uses for existing drugs as well as previously unknown mechanisms of action.

Microarrays have had a fundamental impact on biological research already, but doctors are only just beginning to tap their potential for medical use. “They have allowed us to do something that was not possible before,” says Dr Koch, “which is to query the biology that underlies human disease without knowing anything about it.” As the results from microarrays are collated and refined, many in the field believe they have the potential to transform medicine by delivering much more precise clinical care. “We're at the beginning of genomics-based diagnostics and therapeutics,” states Dr DeRisi. And that means microarrays will have a long life ahead of them.

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Cars that drive themselves

Was that a stop sign?

Nov 30th 2006
From The Economist print edition

Reuters

Transport: Roboticists have already built vehicles that can drive by themselves. Their next challenge is to master urban driving

WHEN a handful of autonomous vehicles rolled over the dusty finish line in Nevada's wasteland in October 2005, the Defence Advanced Research Projects Agency (DARPA), the research arm of America's armed forces, together with experts from the fields of artificial intelligence and robotics, celebrated a technological triumph. The robotic cars had completed 130 miles (210km) of off-road driving on their own, guided only by satellite positioning, laser, sonar and radar sensors—and DARPA's goal of developing autonomous military vehicles had taken a big step forward.

The winner of this unusual race, called the Grand Challenge, was a souped-up Volkswagen Touareg from Stanford's artificial-intelligence lab (pictured). “Stanley” finished the course in a little under seven hours. The car went on to become a minor celebrity and was even shown at the Smithsonian Museum in Washington, DC. But Sebastian Thrun, its creator, admits that Stanley would not stand the slightest chance in DARPA's next robo-car competition, due to take place next year. “He is a reactive machine that has no planning ability,” says Dr Thrun. “When he saw an obstacle, he was programmed to persist.” Such robotic behaviour is useful when you are barrelling down a wide dirt track with the occasional tumbleweed—but not when encountering a stop sign or oncoming traffic.

Yet driving in complex urban settings with multi-lane traffic, frequent stops and turns and unexpected obstacles is exactly what DARPA hopes that autonomous vehicles will be able to do some day. So next year's event, to be held in November, will be called the Urban Challenge. Last year's winners, including the Stanford team and its rivals from Carnegie Mellon University (CMU) in Pittsburgh, will be in pole position. But they have had to go back to the drawing board to develop new hardware and software for their robo-cars.

Start your engines

The contest has sparked intense interest among researchers and within the car industry. Alongside the 11 most promising teams, each of which has received a $1m DARPA development grant, another 78 teams from as far away as China and New Zealand have entered the Urban Challenge. The rules have yet to be finalised, but the vehicles which make it to the final event will be required to complete a 60-mile run through a mock urban environment in less than six hours. They will have to avoid other cars, change lanes and make turns, get in and out of parking spots and deal with inanimate objects—all the while obeying traffic laws and staying within the speed limit.

That will mean taking robotic smarts to a whole new level. Whereas the desert race was “go and go”, the Urban Challenge will be “stop and go”, says William “Red” Whittaker, a renowned roboticist at CMU. His two Hummer vehicles came in second and third in the Grand Challenge, and his team is itching for a rematch, this time pitting a Chevy Tahoe against Stanford's Volkswagen Passat.

Writing software capable of planning routes through city streets while attempting to predict other cars' behaviour will pose far more of a challenge than the previous contest, which essentially involved following a string of waypoints in an open landscape without running into a ditch. But it will fall short of real-life road conditions. “The DARPA routes will have sparse traffic,” predicts Dr Whittaker, “so it will still be orders of magnitude easier than what humans deal with on a freeway in Los Angeles or in Manhattan.”

Consider a four-way stop at an intersection. Humans do not just stick to rules. Instead they make eye contact, size up other drivers' body language and even take into account what kind of car they are driving in order to gauge who has right of way, and who will yield. Dr Thrun is not certain that any vehicle will be up to that challenge. Urban driving increases the demand for processing power by a factor of four, he reckons, but merely installing more powerful computers and software will not guarantee success. “I can imagine a situation where robotic cars will be stuck for hours, unable to make sense of the situation they are in,” he says. It would be a reminder of the first Grand Challenge in 2004, when none of the vehicles got further than eight miles.

The research teams have until next summer to devise and test their new software. They are not starting completely from scratch, but can draw on lessons learned in the desert, such as how best to combine software and sensors. Most of the hardware, including the vehicles, is off-the-shelf technology already in use on boats, in aviation or for military purposes. The trick is how best to combine satellite-positioning technology, laser range-finders, radar sensors and omni-directional cameras to gather enough data—but not too much—so the vehicle's software can figure out what is going on before hitting something or swerving onto the wrong side of the road.

DARPA has a plan to make sure the Urban Challenge does not end in embarrassment. Organisers will be able to make the race easier or more difficult while it is under way, since they will add new tasks via plug-in memory sticks during brief pit-stops. So it will be possible to start with simple problems and then, if the cars prove capable enough, move on to more difficult ones.

It all sounds like fun, but much is at stake for the American army and its contractors, most of which have signed up to enter the Urban Challenge with their own teams. Politicians have earmarked billions of dollars for the development of unmanned ground vehicles, which are a key component of the “Future Combat Systems” programme to modernise the armed forces. Aerial drones and miniature robots sniffing for explosive devices in Iraq provide the first glimpse of a more automated battlefield.

High on the generals' wish list are supply trucks that can drive autonomously in convoy, or can memorise a given route and then automatically drive back and forth between its end points. There are also plans for autonomous personnel carriers and combat vehicles. Some researchers, including Dr Thrun, prefer to stress future civilian applications of the technology. Once it trickles down into commercial vehicles, it could improve vehicle safety and reduce traffic deaths. Some autonomous-vehicle technologies are already starting to appear in production cars (see article). Whether for military or civilian purposes, next year's event has got researchers' engines revving.

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Cars that drive themselves

The road to KITT

Nov 30th 2006
From The Economist print edition

Alamy

Even production cars are starting to become more autonomous

IN THE cult 1980s television show “Knight Rider”, the hero's car, KITT, could leap over obstacles using its Turbo Boost function, hold realistic conversations and drive by itself when necessary. Such feats of automotive agility remain the preserve of the small screen, of course, and talking cars have yet to advance beyond giving directions or reminding you to fasten your seatbelt. But production cars that drive themselves are edging closer, as advances in “active safety” grant them increasing autonomy in an attempt to prevent accidents.

The most widespread example of active safety so far is intelligent or “adaptive” cruise control, in which the car maintains a fixed distance from the car in front, rather than a fixed speed as with a conventional cruise-control system. The distance is monitored using sensors mounted at the front of the car, and braking or acceleration are applied automatically to ensure that it remains constant, thus reducing the chances of a collision. This feature is available on high-end cars from Lexus, Mercedes-Benz, Audi and BMW.

More advanced still are active-safety systems that progressively give warning of potential impacts, try to prevent them, and then try to mitigate their effects. Honda's Collision Mitigation Brake System (CMS), for example, uses a forward-looking millimetre-wave radar to scan the road ahead. If the system detects an obstacle that is likely to cause a crash, it warns the driver via an alarm, a flashing light, and then a tactile or “haptic” warning which tightens the driver's seatbelt. As the anticipated time-to-impact decreases, CMS prepares the car for sudden braking by moving the brake pads nearer to the brake disks, and finally, when the system concludes that a collision is less than one second away, it starts to apply the brakes itself. A similar system from Mercedes-Benz, called Pre-Safe, prepares for a collision by tightening the driver's seatbelt, closing the windows and sunroof, and positioning the front seats in a way that will maximise the effect of airbag deployment.

This technology, however, doesn't come cheap. David Alexander of ABI Research, a market-research firm, says that the fancy electronics required for a radar-based system mean that even widespread adoption of the technology will not lead to a significant drop in price. A more affordable solution, says Mr Alexander, are systems based on range-finding cameras, which make use of components that are already mass-produced for the consumer-electronics market, for use in camera phones and other products.

A number of active-safety applications already rely on camera technology, such as Volvo's blind-spot information system, which notifies the driver when another vehicle is in the car's blind-spot by flashing a light. Similarly, Toyota uses a rear-mounted camera for the self-parking feature on its Prius hybrid, which

can park itself, albeit with some pre-programming from the driver via the car's touch-screen; and Nissan's lane-departure warning system uses a camera to monitor road markings and sounds an alarm if it thinks the car is changing lanes inappropriately, for example if the driver has fallen asleep.

But by taking some control from the driver, carmakers face a potential legal minefield, especially in America, the world's biggest car market. Tellingly, Honda's CMS is offered on the European version of its popular CR-V, but not on the same model in America, and the self-parking feature on Toyota's Prius is only available in Europe and Japan, despite the car's massive popularity in America.

Nevertheless, the march of active-safety systems will continue. Safety is becoming an important differentiator in the increasingly competitive automotive market. Expect to see cars helping out with the driving a lot more over the next few years.

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Can coal be clean?

Nov 30th 2006
From The Economist print edition

Energy: Making power from coal is still a grubby business, but various technologies can make it much cleaner

TWO new coal-fired power plants will soon appear on the banks of the Ohio River if American Electric Power (AEP), a utility, gets its way. There is nothing unusual about that, of course: a rival firm, TXU, unveiled plans to build 11 new coal-fired plants in Texas earlier this year. All told, there are some 150 plants on drawing boards around America, which derives 56% of its power from coal. But AEP's two plants are different in one critical respect: their design would make it relatively easy to filter the carbon dioxide out of their emissions, should the company ever need to do so. America's first “capture-ready” power plants, to use the industry parlance, are nearing construction.

Coal has several advantages as a fuel. It is abundant. It is widely distributed: countries that are short of other fossil fuels, such as Germany and South Africa, have mountains of it. As a result, it is cheap. Even though the price has risen in the past few years, it is still less expensive to run a power plant on coal than on almost anything else.

But coal is also dirty. It releases lots of soot and various noxious chemicals as it burns, and so has fallen out of favour in many Western countries. Worse, coal-fired plants produce roughly twice as much carbon dioxide per unit of electricity generated than those that run on natural gas. Power generation contributes more to global warming than any other industry, and coal is the dirtiest part of it. Coal-fired plants are responsible for perhaps 8 billion out of the 28 billion tonnes of man-made carbon dioxide released every year, and are thus a prime target for emissions cuts. If environmentalists had their way, there would be no coal-fired plants at all: protesters recently called for the closure of Drax, Britain's biggest coal-fired power station.

Yet the number of coal-fired plants is growing. The International Energy Agency (IEA), a think-tank funded by power-hungry countries, estimates that consumption of coal will increase by 71% between 2004 and 2030. Developing countries, in particular, rely on it. Coal provides some three-quarters of the power in both India and China.

The obvious solution is to make coal-fired generation cleaner. And that's what utilities in Western countries have been doing for years, to comply with ever stiffer air-pollution standards. Many literally wash coal to remove some of the impurities before burning it. Other technologies concentrate on purifying the smoke created during combustion. Small particles of ash, for example, are normally removed by forcing the flue gases, as the fumes from the furnace are known in the trade, between electrically charged plates. (Ash particles have a small electric charge, and are then trapped on one of the plates.) Other filters and chemical “scrubbers” catch oxides of sulphur and nitrogen that would otherwise cause acid rain.

Reducing emissions of carbon dioxide, however, is another matter. Most utilities tackle the problem indirectly, by attempting to improve the efficiency of their plants, and so to squeeze more electricity from each tonne of coal consumed or carbon dioxide produced. Most firms want to make such improvements anyway, since they cut costs and improve profits. In Britain, as in most rich countries, the average efficiency of coal-fired power stations is about 35%. But Mitsui Babcock, an engineering firm, says its most recent designs can achieve efficiencies as high as 46%. It reckons that switching from an old design to a new one can cut fuel consumption and emissions by 23%.

Most of the gains in efficiency come from increasing the heat and pressure of the steam used to turn a plant's turbines. The newest ones heat the steam to as much as 600°C—a state physicists call "supercritical". But there is no reason to stop there. Engineers believe that hotter boilers would raise yields even more. Such "ultra-supercritical" boilers, they say, could achieve efficiencies of over 50%, reducing emissions still further.

Substituting biomass for some of the coal burned can also help. Plants, after all, grow back after being harvested, so burning them does not add to overall levels of carbon dioxide in the atmosphere. By replacing 20% of their fuel with biomass, power stations can reduce their emissions by a further 20%. (Any more than that, says Lars Stromberg of Vattenfall, a European energy firm, and the ash from burning it would gum up the works of most furnaces.) Emissions also fall if biomass fuel is used to pre-heat the steam before it enters the boiler. All told, Mitsui Babcock calculates, these measures could cut emissions from coal-fired plants to the same level as those using natural gas.

"Coal plants produce a quarter of the 25 billion tonnes of carbon dioxide released every year"

The coal burnt in power plants can also be improved, mainly by drying. Less dense types, such as sub-bituminous and lignite coal, can contain up to 50% water. When burned, the water escapes as steam up the chimney, carrying valuable heat with it. Evergreen Energy, an American firm, is selling heat- and pressure-treated coal which, it claims, is as much as a third more efficient than ordinary coal.

Such techniques are particularly important in America, where power plants use a lot of sub-bituminous coal from the Powder River Basin in Wyoming and Montana. Coal from this region is low in sulphur, and so burns more cleanly, but has a relatively low energy density unless treated. Meanwhile, RWE, a German utility, is building a plant which will use the residual heat of its own flue gas to dry lignite before burning it. That increases the overall efficiency of the plant at little cost, since the coal can be treated without having to generate any extra heat.

How to capture carbon

These methods can reduce the various emissions produced by coal-fired power stations, so that they are at least no worse than gas-fired stations. But technologies also exist to make coal cleaner still, by filtering out carbon dioxide from the flue gas and storing it somehow. This is theoretically possible, but expensive. Other pollutants, after all, are essentially impurities, which can be washed from the coal or filtered out of the flue gas. But carbon dioxide is not a contaminant—it is the inevitable by-product of carbon in the coal reacting with oxygen in the air. Along with nitrogen, the inert remainder of the air, carbon dioxide is the chief component of flue gas.

Gases, of course, are bulky and difficult to store. Most plans for carbon-dioxide storage involve liquefying it and pumping it underground into former oilfields, gasfields or coal beds—an energy-intensive and thus expensive process. Separating the carbon dioxide from the nitrogen in the flue gas is also expensive, but necessary, since nitrogen turns liquid at a much lower temperature than carbon dioxide, and so requires even more energy to liquefy.

Moreover, unlike modifications that improve efficiency, there are no savings to be had by adding carbon-capture technology to a power plant. As a result, no such plants have been built. A few firms are building demonstration projects, while they wait to see whether governments impose long-term restrictions on carbon-dioxide emissions. Others, especially in Britain, which is blessed with natural storage tanks in the form of the declining oil- and gasfields of the North Sea, have announced feasibility studies for clean-coal plants. Some utilities, such as AEP, are planning commercial plants that will initially lack carbon-capture facilities, but are designed to allow the technology to be added fairly easily at a later date. All are looking for government hand-outs or regulatory incentives to pursue these experiments, in the absence of any more compelling commercial logic.

How does carbon capture work? Most utilities are eyeing one of three basic designs. The simplest, and easiest to bolt on to existing plants, treats carbon dioxide like any other pollutant, and extracts it from the flue gas. As this gas passes through a solution of chemicals called amines, the carbon dioxide is absorbed but the nitrogen is not. The carbon dioxide can later be released, by heating the solution, for subsequent liquefaction and storage. Many firms already use this "amine scrubbing" approach to remove carbon dioxide from natural gas, for example. But it is not so

practical for large-scale uses, since the amines are expensive, as is heating them to release the captured carbon dioxide. The extra energy required would reduce a state-of-the-art supercritical plant's overall efficiency by about 10%, according to the IEA.

“Oxy-fuel” plants sidestep the difficulties of separating oxygen and nitrogen in the flue gas by burning coal in pure oxygen rather than air. The resulting flue gas is almost pure carbon dioxide. But the energy used to separate oxygen from air before burning is almost as great as that needed to filter out nitrogen afterwards, leading to a similar loss of efficiency. Oxy-fuel enthusiasts claim that modern plants can be easily retro-fitted to operate as oxy-fuel plants.

The third approach, called “integrated gasification combined cycle” (IGCC), also requires oxygen, but for use in a chemical reaction rather than for burning. When heated in oxygen, coal reacts to form carbon dioxide and hydrogen. An amine solution then absorbs the carbon dioxide, while the hydrogen is burnt in a modified furnace. The amine scrubbing is cheaper than usual, since the reaction generates carbon dioxide in a more concentrated form. Engineers are also experimenting with membranes that would allow hydrogen to pass, but not carbon dioxide.

There are four IGCC demonstration plants operating in America and Europe, although none currently captures carbon dioxide permanently; instead, it is simply released into the atmosphere. AEP's planned new plants will follow a similar design. The attraction of IGCC plants, aside from their carbon-capture potential, is that they produce fewer traditional pollutants and also generate hydrogen, which can either be put to industrial uses or burnt. But most utilities doubt that IGCC plants are suitable for mainstream power generation, because of higher capital costs and frequent breakdowns. Proponents retort that teething problems are natural, since IGCC is a newer technology, which combines previously unrelated processes from different industries.

George Bush is a believer, at any rate. In 2003 he unveiled a subsidised scheme to build a zero-emissions IGCC plant called “FutureGen” by 2013. The European Union, for its part, is giving money to utilities dabbling in oxy-fuel, among other schemes. Handouts from the taxpayer are needed, power firms argue, since the technology in question is still young. But it is hard to believe that it will ever grow up unless subsidies give way to stronger measures, such as long-term caps or taxes on carbon-dioxide emissions. The technology to eliminate such emissions from coal-fired plants exists, but it will not be adopted without regulatory incentives from governments.

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Brain scan

The Edison of our age?

Nov 30th 2006
From The Economist print edition

Stanford Ovshinsky may not be a household name, but his inventions have the power to change the world

“THE ages of mankind have been classified by the materials they use—the Bronze Age, the Iron Age, the Age of Silicon. We are at the dawn of the Hydrogen Age.” So proclaims Stanford Ovshinsky, co-founder of Energy Conversion Devices (ECD), a company based near Detroit, Michigan. “What is more,” he says, “the hydrogen economy is happening already.”

There have been plenty of grandiose but unsubstantiated claims made over the past five years about the potential for hydrogen to replace fossil fuels as an energy carrier, so some scepticism is certainly in order. In particular, President George Bush and the big carmakers have been trumpeting hydrogen fuel cells—electrochemical devices that turn hydrogen into electricity and water vapour—as the replacement for the internal-combustion engine. But the date of commercialisation seems forever slipping just beyond the horizon.

That has prompted a backlash from advocates of rival technologies (such as ethanol-based engines and novel batteries) and from greens, who argue that hydrogen is just a cynical long-term diversion used by Mr Bush and Detroit to avoid short-term action on fuel-economy standards, plug-in hybrids and other here-and-now options. And yet here is Mr Ovshinsky, still trumpeting hydrogen's virtues despite bitter opposition.

Three things set Mr Ovshinsky apart from the hydrogen hypesters. First of all, he is no newcomer. He first outlined his vision for what he calls a “hydrogen loop” some five decades ago as an alternative to fossil fuels. (The loop goes from water to stored hydrogen via solar-powered electrolysis, and from hydrogen back to water, generating electricity in the process, via a fuel cell.) Unlike others, he can hardly be accused of opportunistically seizing upon this obscure techno-fix for political reasons.

The second difference is that Mr Ovshinsky's green credentials are impeccable. He and his wife Iris, who died recently, founded ECD in 1960 with the explicitly stated goal of “using creative science to solve societal problems”. Astonishingly, they had the foresight to predict—long before the oil shocks of the 1970s—that the world's addiction to oil would have unacceptable side effects, from resource wars to climate change. Spend time with Mr Ovshinsky and his employees, and it becomes plain that his social values permeate his organisation.

But what lifts Mr Ovshinsky into the league of genius inventors is something rather less common: success. He is the inventor of the nickel-metal hydride (NiMH) battery, which is used to power everything from portable electronics to hybrid cars; around 1 billion such batteries are sold every year. He has also made advances in information technology (he calls information “encoded energy”) and holds critical patents relating to thin-film solar cells, rewriteable optical discs, a new form of non-volatile memory and flat-panel displays. These technologies are being commercialised through deals with Intel, Samsung, STMicroelectronics, General Electric, Chevron, United Solar Ovonic, and others.

Innovation from disorder

What all these apparently disparate inventions have in common is that they rely on Mr Ovshinsky's path-breaking discoveries in the field of disordered or “amorphous” materials, since named “ovonics” in his honour. Such materials can be used for energy generation (in fuel cells and solar cells), for energy storage (in batteries), for computing (to store data on discs or in chips) and to create custom materials with novel properties.

Mr Ovshinsky has spent the past five decades devising actual working products, based on amorphous materials, that fill every niche in his hydrogen loop, from thin-film solar panels to solid-hydrogen storage tanks to “regenerative” fuel cells that can store energy captured while a car is braking. ECD has even “hacked” a Toyota Prius hybrid car so that it runs on pure hydrogen rather than petrol, which he says proves that “we don't have to wait for fuel cells to move into the hydrogen economy.”

All this makes it tempting to compare ECD's co-founder with Thomas Edison, the great inventor from another age who founded General Electric. Both established themselves early on not only as brilliant innovators, but inventors with their feet firmly planted on the ground. Both arose from humble roots: Edison was not born to privilege, while Mr Ovshinsky's father collected scrap by buggy. Mr Ovshinsky did not even go to college, and credits his vast knowledge of science to the public libraries of his native Ohio. He likes to say, “invention comes to the prepared mind.” And Edison, like Mr Ovshinsky, straddled the fields of energy and information technology: he originally made his name with the invention of the quadruplex, a device that increased the capacity of telegraph lines, before moving on to electrification.

Another similarity between the two inventors is that both thought of their inventions as entire systems. They had the verve to envisage a radically different world, but were good at inventing the practical things needed to get there. In Edison's case, his vision was that of mass electrification. He was not the first to make a light bulb, but he vastly improved it and, more importantly, created the generation and distribution technologies needed to make it work, from power stations to electricity meters. His company, now called GE, helped to light up America and then the world.

Despite his lack of formal training, the charming, soft-spoken Mr Ovshinsky is not at all threatened by scientists with fancy degrees: he hires many of them, and has hosted lively debates around a round table at ECD with such prominent scientists as Hellmut Fritzsche and Morrel Cohen of the University of Chicago, David Adler of MIT and Sir Neville Mott of Cambridge University (who went on to win a Nobel prize for work on amorphous materials). Ask him whether he expects his own Nobel, and he responds matter of factly: “Oh, never. I've been nominated before, and Mott gave me credit when he won his, but I'll never get one.” Without a hint of bitterness he adds softly, “I'm not a part of their world.”

Mr Ovshinsky's vision for a hydrogen loop was just a blackboard exercise five decades ago. But since then he has produced the inventions needed to make it work. “Stan starts with a vision, and then goes out to invent what we need to get from here to there,” says Joachim Doehler, a senior scientist at ECD. Doing this requires more than scientific theory: it requires a practical engineer's mind too. “Stan is a very good toolmaker,” says Robert Stempel, ECD's chairman (and a former boss of General Motors, a big carmaker). Mr Ovshinsky's collaborators say that he has an astonishing ability to juggle the permutations of eight or ten novel materials in his head, which gives him an intuitive grasp of which scientific leads to follow. That said, his colleagues joke, he still sometimes cannot remember names correctly.

The best evidence of Mr Ovshinsky's systems approach at work is his shiny new solar factory in Michigan. Several decades ago, he argued that solar panels ought to be made not as brittle crystalline panels in costly batch processes—how everyone else does it today—but in a continuous process, “by the mile”. He was ridiculed. But he refused to yield, and asked his team to devise processes for producing miles of thin-film solar material. Dr Doehler, a veteran of AT&T's legendary Bell Labs research centre, recalls telling his boss it was impossible. The boss proved him wrong, personally designing much of the solar factory from scratch. Crucially, his approach does not require the expensive silicon used in conventional solar panels.

“Mr Ovshinsky may be 84, but he still dresses in natty suits and moves with a young man's energy.”

A sunny future

Mr Ovshinsky points to the happy result on the shop floor: a flexible, self-adhesive strip of solar material that makes power even on cloudy days and is virtually indestructible. The factory, which Mr Bush visited in February, has an order backlog of six months and profit margins approaching 30%, he says. He has another factory in the works nearby, and plans for more: “I see ECD's future as a factory for factories.

That's how you build entirely new industries for the future." So does he see ECD as the GE of the 21st century? "Oh, ECD will be much more than that," says Mr Ovshinsky merrily. "Energy and information are the twin pillars of the global economy, after all."

How justified is this boast? Few question his intellect, but some do challenge his record as a corporate boss. An article in *Forbes* magazine asked in 2003 why investors "keep giving money to Stan Ovshinsky, the inventor who can create anything but profits." ECD has lost money for most of the 40-plus years that it has been a public company. As even one of Mr Ovshinsky's loyal lieutenants confesses, "This company would have gone bust six times already if it were not for the personal loyalty people felt for Stan and Iris; we went the extra mile for them because this place is unique."

Inspired by the family's links to the peace and civil-rights movements, the Ovshinsky motto is "with the oppressed, against the oppressor", and ECD retains the feel of a family firm with those values. What is more, ECD is visibly committed to clean energy—and Mr Ovshinsky is clearly not motivated by money. The *New York Times* recently analysed executive pay in America and found that bosses typically get 500 times the salary of the average worker at their firms; the ratio at ECD is five to one. He even points out that he is "probably the only chief executive that is a union member".

The loss of his wife, collaborator and co-founder has clearly devastated Mr Ovshinsky, but do not expect to see him retire anytime soon. He may be 84, but he evidently has plenty of unfinished business to attend to. He still rises early, dresses in natty suits, and moves with the agility and energy of a young man. His intellectual curiosity appears entirely undiminished by a life of learning: his desk at ECD is buried under neat stacks of annotated scientific papers, business plans and other reading material. And he remains as audaciously inventive as ever.

He has worked out how his next generation of solar films will be produced not at 2.5 feet per minute, he says, but 100 times faster. He is convinced he can radically improve the efficiency of fuel-cell electrodes. He thinks he will be able to scale up his firm's hydrogen-storage system to megawatt scale, thus enabling grid storage of renewable power. And so on. As your correspondent departed at the end of a day-long visit, Mr Ovshinsky still had a dinner interview with a television crew, and then planned to work on a cosmology paper at home. As I.I. Rabi, a Nobel prize-winning physicist, is reported to have said when asked if his friend was another Edison: "He's an Ovshinsky, and he's brilliant."

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Nov 30th 2006
From The Economist print edition

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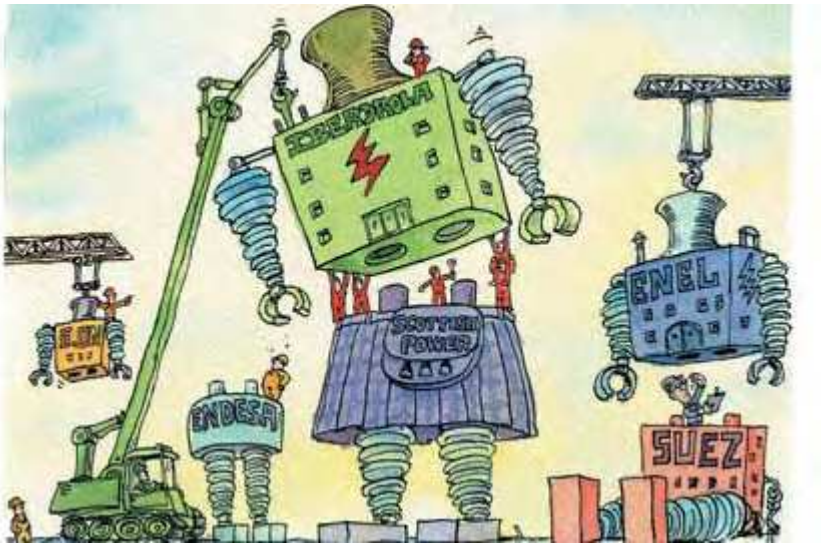
European utilities

Power struggles

Nov 30th 2006
From The Economist print edition

Political and business interests collide as Europe's energy firms consolidate



“WE expected a wave—but what happened was a tsunami,” says Emmanuel Turpin, a utilities analyst at Morgan Stanley, an investment bank. Energy-industry insiders predicted a series of mergers and acquisitions in European utilities at the beginning of this year. But hardly anyone expected the announcement in February of two of the biggest-ever takeovers in corporate Europe: the bid for Endesa, a Spanish electricity company, by E.ON, a German power giant; and the merger of Gaz de France (GDF), a French gas firm, and Suez, another French utility.

The latest takeover in the industry, announced this week, is smaller, less spectacular and not much of a surprise. Iberdrola, a Spanish electricity company, announced on November 28th its €17.2 billion ($22.5 billion) bid for Scottish Power, a British utility. Compared with the E.ON bid, now valued at €37 billion, and the €78 billion merger of Suez and GDF, the deal looks like small beer. Yet the acquisition will create one of Europe's six biggest utilities and a world leader in renewable energy. And in striking contrast to the two bigger deals, which are bogged down in legal and political quagmires, it is likely to proceed smoothly.

The catalyst for the frenetic merger activity among European utilities is the run-up to full deregulation of the European Union's energy market. For more than a decade the European Commission has been trying to enable energy producers and distributors to compete freely across national borders. The final deadline of the EU's bulky legislative programme to liberalise the market is July 2007. By then member states are supposed to have implemented all EU energy directives.

Ignacio Galán, the boss of Iberdrola, said this week that the fast-approaching deregulation in Europe, which will put big, cross-border firms in a stronger position, was one of the reasons for his bid for Scottish Power. But Mr Galán did not mention the more probable driver of the deal. ACS, a Spanish construction company, recently bought a 10% stake in Iberdrola with a view to merging it with Unión Fenosa, another Spanish power company in which ACS has a 40.5% stake. Mr Galán is opposed to the deal. Iberdrola is the world's leading operator of wind turbines, but Fenosa relies heavily on coal-fired plants, so a merger would sully Iberdrola's image.

Investors and analysts are lukewarm about his proposed alternative, however. There is an obvious logic

to buying PPM Energy, an American wind-power developer owned by Scottish Power, given that Iberdrola took over two other wind-power companies in America earlier this year. But PPM is only one-fifth of Scottish Power's business. Combining Iberdrola with Scottish Power will achieve very few cost savings as there is no other geographic overlap. And Iberdrola is taking on lots of debt to finance the pricey takeover.

But at least the objections to the deal are commercial, rather than political or legal, which is more than can be said for Europe's two other big energy mergers. It is a full year since a failed bid for Scottish Power prompted Wulf Bernotat, the boss of E.ON, to plot his big coup: a takeover of Endesa, which would make E.ON one of the world's largest electricity and gas firms, with over 50m customers in more than 30 countries.

Mr Bernotat's grand plan is facing strong resistance in Madrid. The Spanish government wants to keep Endesa in Spanish hands, so the country's regulator imposed no fewer than 19 conditions on the German bid (and later added some more for good measure). The deal is also entangled in a legal dispute between Endesa and Gas Natural, another Spanish power company that wants to buy Endesa. Meanwhile the merger of GDF and Suez is in serious trouble. On November 21st a judge in Paris blocked GDF from completing the deal. The judge agreed that workers' representatives, who are afraid of job cuts, needed more time to look at the terms of the deal. GDF immediately appealed, but the appeals court upheld the ruling.

The delay will postpone a shareholders' vote on the deal until next spring, when the campaign for the French presidency will be in full swing. Doing the deal just before the election will be tricky, but trying to do it afterwards will be even harder. Ségolène Royal, the Socialist candidate for the presidency, has vowed to renationalise GDF if she wins. And Nicolas Sarkozy, the most promising candidate of the centre-right, might well drop his half-hearted support for the merger.

But insiders still reckon the two mega-mergers will go ahead. “We are confident the Spanish and French deals will eventually go through,” says José Javier Ruiz Fernández, a utilities analyst at Exane, a French broker. The political cost of the Spanish government's tactics is high, so it will probably give up its resistance to E.ON. The European Commission ruled in September that all but one of the 19 conditions imposed on the E.ON bid were illegal, and it said on November 29th that all of the regulator's new conditions were illegal too.

Next year consolidation will continue, though at a less busy pace. Valuations of European utilities are now very high. Governments remain opposed to acquisitions of utilities by foreigners—except, that is, in Britain. After the takeover of Scottish Power, foreigners will own four of Britain's six big utilities. Only Centrica, a gas retailer, and Scottish and Southern, the third-biggest energy utility, will remain in domestic hands. They are tempting targets, but any suitor will need deep pockets—and confidence that the European market will indeed, despite all the political meddling, soon become truly open.

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Marketing to children

Trillion-dollar kids

Nov 30th 2006 | NEW YORK
From The Economist print edition

Children exert a surprising influence over the purchase of grown-up goods

AS THE holiday shopping season kicks off in America and elsewhere, children have started nagging their parents for the latest toys. But listen more closely, and that may not be all they are lobbying for. Marketing to children is no longer about hawking toys, sweets and cereal in between the cartoons. Children are now influencing purchasing decisions for grown-up items such as cars and holidays, and firms are responding accordingly.

Hummerkids.com offers games and colouring pages to teach children about the joys of owning a colossal sport-utility vehicle. Honda, another carmaker, is about to launch an advertising campaign on Disney's ABC Kids channel. The Cayman Islands' department of tourism buys ads on Nickelodeon, a children's cable channel, promoting expensive holidays. And Beaches Resorts, a hotel chain, has teamed up with "Sesame Street" to make its resorts more appealing to children.

"The parents have ceded control. Children are making decisions about most household products," says James McNeal, a consultant who has been writing about marketing to children for two decades. He estimates that children under 14 influenced as much as 47% of American household spending in 2005, amounting to more than $700 billion. That is made up of $40 billion of children's own spending power, $340 billion in direct influence ("I want a Dell") and $340 billion in indirect influence ("I know little Timmy would prefer us to buy the Lexus").

With websites and cable channels devoted entirely to their interests, today's children are far more exposed to marketing than their parents or grandparents were. And as their access to media has grown, so has their power to influence their parents. Children now determine everything from where their families go on holiday to how their homes are furnished. As the resident technology experts in many homes, they often choose what sort of televisions, stereos and computers their parents buy. And when parents buy boats, all-terrain vehicles or even barbecue grills, their children can heavily influence those decisions too. Can-Am, a maker of all-terrain vehicles, is one of many firms that offer branded "advergames" on its website in an effort to appeal to children.

Companies have discovered that it is often more effective to recruit a child as an in-home marketer than to try to convince a parent to buy their products. That may explain why Nickelodeon is Viacom's most profitable division—advertisers are lining up to pay a premium for access to their most valuable targets. Furthermore, every child represents a new chance to build cradle-to-grave brand loyalty.

Parents' groups are upset. "How can one family in isolation combat this $15 billion industry that's working night and day to undermine parental authority?" asks Susan Linn of the Campaign for a Commercial-Free Childhood, a lobby group that campaigns against the undermining of families by "rampant consumerism".

The advertising industry, already on the defensive because of the controversy surrounding fast-food advertising, argues that parents are responsible for managing their children's exposure to marketing. But it also recognises that the subject is controversial. Children are hedonists, inclined to make impulse buys and less likely to make educated purchasing decisions. This can make a lot of difference when children are choosing cars or expensive electronics on behalf of their families. Do you really want the "cooler" car instead of the safer one? Can a seven-year-old really choose the best computer?

Probably not. But children have to start learning to distinguish truth from spin at some point, and a total ban would be difficult to enforce. And there is another reason why firms that target children need to tread carefully. However hedonistic or naive they may be, children have long memories. Advertisers that

deceive children could lose them as customers forever.

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Starbucks v Ethiopia

Storm in a coffee cup

Nov 30th 2006 | NEW YORK
From The Economist print edition

The coffee chain is embroiled in a fight over Ethiopian coffee-bean trademarks

A GROWING number of coffee drinkers seem to prefer their morning grande skinny latte without a foul-tasting double-shot of social injustice. The hugely successful Fairtrade brand allows coffee addicts to get their fix with a clearer conscience, safe in the belief that no farmers have been exploited along the way. Coffee has become a testing ground for what it means to be an ethical consumer. No wonder Starbucks, a global coffee chain that prides itself on being socially responsible, has reacted like a scalded *barista* to criticism from Oxfam, a development charity.

Oxfam says Starbucks is depriving farmers in Ethiopia of $90m a year by opposing the Ethiopian government's efforts to trademark three types of local coffee bean. At least 70,000 customers have contacted Starbucks to complain, prompting the firm to post leaflets in its shops defending its behaviour. It accuses Oxfam of “misleading the public” and says the campaign “needs to stop”.

AP

Are those beans ethical, or not?

This week Douglas Holt of Oxford University's Said Business School drew a parallel with the supply-chain problems that made Nike an ethical pariah. “Just as consumers were disgusted by the fact that Air Jordans sold for $120 while Asian labourers produced the shoes in what amounted to slave-labour conditions, they will be equally disturbed by the fact that Starbucks is happy to sell coffee for $26 per pound while refusing to allow the coffee's producers a shot at climbing out of desperate poverty,” he said. On November 28th Jim Donald, Starbucks' chief executive, met the Ethiopian prime minister, Meles Zenawi, but no deal was reached.

This is not the first time that Starbucks has disagreed with ethical-consumption advocates. Despite selling plenty of Fairtrade-branded coffee—it claims to be North America's biggest purchaser of Fairtrade beans—it also buys other beans without a stamp of approval from these arbiters of fairness, in part because it questions the standards they apply in different parts of the world. It doubts even that the strategy of the Fairtrade movement, which is to secure farmers a premium over the market price for their beans, is the best approach to alleviating poverty. The firm prefers a scheme called CAFE (Coffee and Farmer Equity), which aims to help coffee farmers through a mixture of technical support and microfinance loans.

Although it denies being behind coffee-industry lobbying against the Ethiopian government, Starbucks argues that trademarking coffee beans might introduce legal complexities that will deter firms from buying trademarked beans, thereby hurting farmers instead of helping them. It favours a regional certification scheme, like the *appellation contrôlée* system in French wine, which would allow beans to be branded consistently without creating legal problems. This seems sensible enough.

Indeed, Mr Holt's suggestion that the Ethiopian government is being frustrated in its attempts to help coffee growers become more entrepreneurial is laughable. It is being advised by Arnold & Porter, a top law firm based in Washington, DC. It ought perhaps to have asked its lawyers for help in creating a business-friendly legal system, with meaningful property rights, to give Ethiopians a better shot at escaping poverty through their own efforts. Ethiopia ranked 97th in the World Bank's latest “ease of doing business” index and a dreadful 130th in Transparency International's corruption-perceptions index. Some suspect that its pursuit of trademarks is just a way for the government to boost its own income, with little or none of it being used to help coffee growers.

As for Oxfam's involvement, it will be interesting to see how the battle develops. Starbucks has loyal customers who may well be prepared to hear its side of the story. Is it too much to hope that this battle might mark a turning-point in the war over corporate ethics, and that it will cease to be enough merely for a pressure group to throw mud at a company to make that mud stick? *The Economist* will drink a grande extra-wet triple-latte to that.

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About sponsorship

Organic clothing

How green is your wardrobe?

Nov 30th 2006
From The Economist print edition

Ethically minded shoppers turn their focus to cotton

HAVING dumped the family sport-utility vehicle in favour of an energy-efficient Prius hybrid and packed the weekly shopping trolley with organic produce, where will the environmentally conscious ethical shopper turn next? For a growing number of green-minded consumers, the answer is the wardrobe.

Organic cotton—once found only on the backs of hippies and tree-huggers—is trying to go mainstream. Whether woven into clothing, linens, duvets or children's nappies, organic cotton is turning up everywhere, from pricey bed-and-breakfasts in Nantucket to the Green Baby shop in London's posh Notting Hill.

Proponents claim the fibre is better for the planet, for growers and for consumers than the more common sort of cotton. Whether or not that is true, organic cotton certainly looks attractive to retailers trying to burnish their socially responsible images. Ethics, after all, are all the rage.

Niche shops and eco-friendly firms such as Patagonia, a sportswear-maker, have been selling organic clothing for years. But now big retail chains are piling in. Marks & Spencer, Nordstrom and Wal-Mart are among those to jump on board. The Organic Exchange, an industry body, reckons that nearly $1.1 billion in organic-cotton products will be sold this year, nearly double last year's figure of $583m. It projects sales of $2.6 billion by 2008.

Organic cotton is roughly defined as fibre that does not come from genetically modified (GM) seed and has been grown without the use of man-made pesticides and fertilisers—all of which is supposed to be independently verified. In fields where synthetic chemicals have been used in the past, it takes about three growing cycles to make the full conversion. The change-over to organic is arguably tougher in America, a chemical-loving country where 80% of the cotton crop comes from GM seeds; globally, only about 20% of cotton comes from such seeds.

Despite the great hopes of organic cotton's backers, several challenges could prevent it from going truly mainstream. For starters, there is not much of it around. Organic cotton currently accounts for only 0.1% of global cotton output, for a number of reasons. The cost of organic conversion and lower crop yields than regular cotton (at least in the early years after a switch) have quelled farmers' interest. Farmers also worry about uncertain market demand, pointing to the big surplus that developed in 2001. The Organic Exchange says that long-term commitments from big retailers now mean organic output is growing at a rapid clip. But it will take years to grab a significant market share. In the meantime, some big retailers are having to limit their organic clothing to particular (often small) items such as babywear, or to blend organic cotton with other fibres.

Given the limited supply, it is no surprise that organic cotton is more expensive than the ordinary variety. Organic cotton from Turkey, the world's largest grower, sells for about 20% more than the conventional sort. The premium is smaller in India and Pakistan, two other big growers with lots of cheap labour, and greater in America. The added cost is then passed on to retailers. Marks & Spencer, for instance, says it charges about £1 ($1.95) more for a T-shirt made with organic cotton than one made entirely with ordinary cotton. But the price gap could narrow if organic output increases and the price of conventional cotton (currently about $0.57 per pound) moves back toward its long-term average of about $0.70.

Another problem is the potential for fraud. Cotton-industry officials say it is virtually impossible to tell organic cotton from the ordinary kind. The premium on organic cotton and an overstretched inspection system mean that “the market is absolutely ripe for fraud in organic,” says Mark Messura of Cotton Incorporated, an American trade group.

He is not alone in voicing scepticism about the long-term appeal of organic cotton. He suggests that the current surge of interest is driven more by retailers than consumers, whose fickle tastes might suddenly change. “This is the season's new black,” says Mr Messura. “Next year we'll be off to something else.”

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About sponsorship

Proton

A fork in the road

Nov 30th 2006 | HONG KONG
From The Economist print edition

Malaysia's crisis-ridden national carmaker faces a stark choice

AP

Hanging by a thread

WHAT will become of Proton, Malaysia's struggling carmaker? A political project set up in the 1980s, it never picked up speed, has been overtaken by foreign competitors and has become embroiled in a struggle over its future direction. With its cash reserves running low, it is now in danger of breaking down altogether. The government, which hopes to place the company with a "strategic partner" by next February, simply wants to extricate itself from the mess with the minimum of humiliation. Which route it will take is the subject of feverish speculation.

Proton was set up by the government in 1983 and started building cars two years later in association with Mitsubishi of Japan. It was a central part of the strategy laid out by Mahathir Mohamad, the prime minister at the time, to transform Malaysia into an industrialised nation by 2020. The idea was that a big carmaker would create jobs, provide access to technologies, bring in export earnings and spawn a host of supporting industries. But Proton never got big. Although it once had 65% of the local market, output never rose above 227,000 cars a year and exports never exceeded 20,000 units annually. In an industry dominated by a handful of global giants, each producing 3m-6m cars a year, Proton remains a minnow.

Yet it has refused to scale down its ambitions. Proton has built factories capable of churning out 1m cars a year and has launched a range of models. But quality is poor and low volumes mean it is not able to compete on cost. Even local consumers have become fed up with Proton's cars, with their sharply declining second-hand values. They have switched loyalties to what was once the second national carmaker, Perodua, which is now controlled and very competently run by Japan's Daihatsu, part of Toyota. Proton's market share in Malaysia has fallen steadily in the past few years and is now just 31%.

The crisis has intensified in recent weeks because Proton's cash is running out. In 2003 it had 3.8 billion ringgit ($1.1 billion) in the bank, but today it has only 500m ringgit, half what it had in March. Hence the government's recent announcement that it was in new talks with two big European car groups, Volkswagen and PSA Peugeot Citroën, with a view to selling part or all of its stake to one of them or forming some kind of strategic alliance.

The trouble is that Proton is not just an ailing carmaker. It is also a political hot potato, since it is caught up in the feud between Dr Mahathir and Abdullah Badawi, who succeeded him as prime minister in 2003. Mr Badawi sees the firm as a liability, but to Dr Mahathir any sale would be tantamount to dismantling his legacy. Khazanah, the national investment authority and Proton's main shareholder, is also reluctant to sell because of the write-down it would take. To complicate matters further Proton's management, in an effort to assert control, has signed vague letters of intent with carmakers including Peugeot and China's Chery. And three local car importers, DRB-Hicom, Naza Group and Mofaz, separately offered to buy Proton in order to keep it in Malaysian hands.

But even if a buyer can be found, a sale would cause other problems. Foreign buyers would be interested mainly in access to the market, not in Proton's factories, models or headstrong managers, who insist that a little more investment is all that is needed to turn the firm around. And although another carmaker could use Proton's manufacturing plants, it would make little financial sense, since most parts would have to be imported. Foreign component-makers, put off by Malaysia's rules that give advantages to ethnic Malays, have set up shop in Thailand instead.

Malaysia's government, the prime minister and his meddling predecessor do not have long to decide which way to turn. Should Proton give up and become a tiny part of a global carmaker, or should it struggle on in the hope that things will somehow improve? Selling out to a foreign firm would be humiliating. But Proton's struggles are already a national embarrassment as it is.

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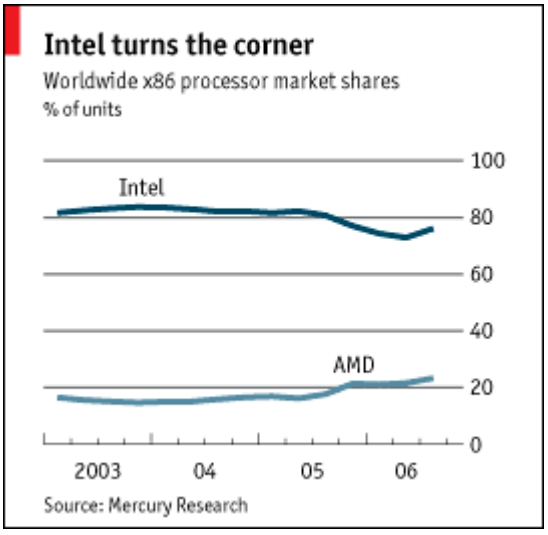
Intel v AMD

The empire strikes back

Nov 30th 2006
From The Economist print edition

After a difficult patch, Intel has retaken the technical lead from its rival AMD



MANY industries are dominated by warring duopolies, from Boeing and Airbus in aviation to Coke and Pepsi in soft drinks. Such rivalries keep the companies on their toes and enhance choice and competition for customers. The market for microprocessors, the chips that power computers, has long been dominated by Intel, the world's largest chipmaker. But in recent years a series of stumbles allowed its rival, Advanced Micro Devices (AMD), also based in California, to capture the technical lead and win market share.

Intel's response was a manoeuvre that its boss, Paul Otellini, described five years ago as the "right-hand turn". In the past few weeks Intel completed the turn with the launch of a new range of chips that has put the company back on top. "What you see playing out in the marketplace today is the result of turning the wheel many years ago," says an ebullient Mr Otellini.

AMD had outflanked Intel in several respects. It devised a clever way to enable chips to handle data in both 32-bit and 64-bit chunks, which improves performance. Intel reluctantly conceded in 2004 that AMD's approach had merit, and adopted it too. AMD had also argued for years that there was more to performance than simply getting chips to run at ever higher clock speeds, the approach favoured by Intel. Sure enough, Intel eventually hit a wall. So it followed the lead of AMD and other firms and embraced a new approach to chip design, in which performance is improved and energy-consumption reduced by sharing out the number-crunching between several "cores" in each chip.

The launch of its new chips, and in particular the Core 2 Duo, has demonstrated that Intel has now successfully navigated the transition. That chip, as its name suggests, contains two processing cores, and its performance has won it rave reviews. Last month Intel cemented its comeback with the launch of its first four-core chips, several months ahead of schedule—and, crucially, ahead of AMD, which will not launch such chips until mid-2007.

Intel has not just been revamping its products. It has also refocused and reorganised itself in order to compete better with AMD. A cost-cutting drive is expected to save $2 billion next year and $3 billion in 2008. Around 10% of the workforce has been laid off. Intel also sold its struggling communications-chip unit. In hindsight, the effort to slim down and improve performance for the long term probably ought to have been done during the 1990s, says Mr Otellini. "Success breeds some degree of complacency," he says.

AMD has capitalised on Intel's difficulties in recent years to emerge as its first really credible rival. It has a market share of over 20%, has broken into the market for high-end server chips, and has persuaded Dell, a big computer-maker which used to have an Intel-only policy, to use its chips. Most important, says Hector Ruiz, AMD's boss, his firm's chips are now used in "mission critical" applications by big firms such as Oracle and Boeing. "It makes us feel we've been accepted," he says.

Mr Ruiz concedes that Intel's new chips have now "closed the gap". But his firm has new products up its sleeve. Earlier this year AMD bought ATI, a maker of high-performance graphics chips. It plans a new product range that fuses the graphics chip with the microprocessor—something Intel would find hard to

replicate.

Even so, AMD grumbles that it is still not competing on equal terms because of Intel's allegedly anti-competitive practices (such as special incentives for customers who favour Intel). Regulators in Europe and Asia are investigating, and AMD has launched a lawsuit against Intel in America. Intel denies wrongdoing. But if nothing else, the regulatory scrutiny seems to have emboldened computer-makers, which were previously wary of offending Intel, to become cosier with AMD.

All of which means that the market for processor chips is now a two-horse race, and the two firms will probably alternate in technical leadership, suggests Nathan Brookwood of Insight64, a research firm. Following Intel's comeback, it will be interesting to see how AMD responds.

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Dell

Commoditise this

Nov 30th 2006
From The Economist print edition

The computer-maker hopes to do for services what it did for hardware

POOR Dell. The computer-maker faces lacklustre profits, a volatile share price, a costly product recall, defecting executives and an investigation of its accounts by American regulators. It has even lost its position as the world's biggest PC-maker to Hewlett-Packard, its revitalised rival. The firm best known for turning computers into commodities has found itself commoditised.

What went wrong? Dell's rivals figured out how to emulate its low-cost manufacturing operations and benefited from growing retail sales of PCs to consumers. Dell, by contrast, concentrates on selling to business customers via the web, where growth is slower.

Its response is a bundle of initiatives called, with the prevailing fashion, “Dell 2.0”. This includes improving Dell's website, revamping customer support, doing more cross-selling, further squeezing its supply chain, refreshing its hardware designs and pushing harder into emerging markets. But the area with the greatest promise—and the most potential pitfalls—is Dell's plan to put more emphasis on services. In essence, Dell hopes to commoditise technology services just as it commoditised hardware.

The initiative got a boost on November 14th when Dell took the rare step of acquiring a company: it bought ACS, a British technology-services firm with a strong presence in London's financial district. Dell's plan is to move up from basic things like PC support to more sophisticated services such as designing and installing big computer systems. As with other markets it has attacked from below, such as servers and storage, Dell plans to undercut the incumbents with lower prices and thinner margins.

Dell's services business already brings in around $5 billion a year, roughly 10% of its sales, and the margins are far higher than on hardware. Its hardware business is growing at around 5% a year, but its services division is growing by more than 20%. Dell's European services group has doubled both revenues and customers this year, says Paul Bell, the firm's boss in the region.

Yet moving farther into services could put Dell in competition with its own customers, since many services firms buy Dell gear on behalf of their clients. Worse, Dell's move comes just as the services business is looking tougher than ever, due to the rise of Indian firms.

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Face value

The executioner

Nov 30th 2006
From The Economist print edition

Volkswagen's Ferdinand Piëch is fanatical about cars and ruthless towards people

AP

ACCORDING to rumour, Ferdinand Piëch likes to run chickens off the road in his Volkswagen Touareg. Whether that is true or not, he certainly tends to ride roughshod over humans, metaphorically at least. During his long career as head of Audi, chief executive of Volkswagen and now VW's supervisory-board chairman, he is reckoned to have fired at least 30 directors. They include three of his successors as head of Audi, a Volkswagen subsidiary, and his latest victim, Bernd Pischetsrieder, who succeeded him in 2002 as boss of VW. On November 7th the firm said that Mr Pischetsrieder would leave at the end of the year. It was another swift and bloodless execution by Mr Piëch.

A manic, blue-eyed 69-year-old, Mr Piëch combines the cold logic of Darwinism with a military ruthlessness in his commercial dealings. Engineering brilliance runs in his family: he is the grandson of the renowned Ferdinand Porsche, an Austrian who developed the Beetle, the people's car, in Nazi Germany, and later created the first Porsche sports car from VW parts. Some attribute Mr Piëch's obsessive drive to a determination to outdo his grandfather, if not technically, then commercially.

Porsche's daughter Louise, Mr Piëch's mother, inherited half the Porsche fortune and ran Porsche Holding, the Austrian company that today is the biggest distributor of VW and Porsche cars in Europe. Porsche and VW have always been close: the Porsche and Piëch families together own half the shares and all the voting rights of Porsche AG. Recently Porsche AG has grown even closer by buying just under 30% of VW's shares and gaining two seats, besides Mr Piëch's, on VW's supervisory board.

The young Mr Piëch, with reading difficulties but mechanical flair, studied at Zurich Technical University, where he worked on a new Formula One engine. He joined his uncle Ferry at Porsche in 1963, developing its first really successful model, the 911, and the racing 917, which won a series of trophies in 1970 and 1971, including the Le Mans 24-hour race.

After being denied the top job at Porsche in 1972, he moved to Audi, where he elevated its output from bourgeois saloons to sporty numbers such as the Quattro. It is largely because of Mr Piëch that Audi is today vying with BMW and Mercedes as a maker of premium cars. In 1993 he moved to VW and turned its losses into profits, saving jobs in its home town of Wolfsburg with the help of two men, Gerhard Schröder, then premier of Lower Saxony (and later German chancellor), and Peter Hartz, a brilliant personnel director. In 1999 Mr Piëch was hailed as the “car executive of the century”. His masterstroke was the reinvention of the Beetle as a modern car, a big seller in Europe and America. He also brought in Ignacio Lopez from Opel, a subsidiary of General Motors, who was famous for cutting costs by squeezing suppliers—though Mr Lopez later had to leave on suspicion of having lifted trade secrets from GM.

VW is no ordinary company. Its roots lie in the Nazi war machine, and it is protected from takeover by a 1960 law that limits large shareholders to 20% of the voting rights. Moreover the state of Lower Saxony owns 18.2% and its premier sits on the supervisory board. Add the fact that VW's labour force is 92% unionised, and the result is a company that cannot easily sack thousands of people. In negotiations this week, jobs at a factory in Belgium were sacrificed to save jobs in Germany.

Even the Darwinist Mr Piëch had to adapt to that reality when he became chief executive. That led to an extraordinary symbiosis between the management and the workers' representatives, ten of whom sit on VW's supervisory board. But Mr Hartz, Mr Piëch's loyal lieutenant, may have taken the symbiosis too far: he is under investigation for a scandal that came to light last year, in which company funds were allegedly used to pay for prostitutes and foreign trips for those board members. One of them, Klaus Volkert, was arrested on November 21st on suspicion of trying to influence witnesses. Mr Hartz insists that his superiors had no knowledge of any misconduct.

Execution, execution, execution

Having taken over at VW, Mr Piëch embarked on a spending spree that indulged his personal passion for thoroughbred cars. He bought Bugatti and Lamborghini and outbid BMW for Rolls-Royce and Bentley (though BMW cunningly secured the use of the Rolls-Royce name). He conceived the ill-selling Phaeton, a luxury VW model with its own “transparent” assembly works in Dresden. He created the Bugatti Veyron, a 1,000-horsepower monster that few can afford. Though most of these moves into luxury cars produced white elephants, people at Volkswagen insist that some are beginning to pay their way: Bentley and Lamborghini are making money, and the Bentley Continental is based on the Phaeton platform. Whatever his fantasy, the Porsche grandson seems to get away with it in the end.

Mr Piëch's influence on VW has hardly diminished since he became non-executive chairman in 2002. Indeed, with the advent of Porsche as VW's biggest shareholder, his power has gone from strength to strength. In May he publicly expressed his discontent with Mr Pischetsrieder but was persuaded to extend his contract to 2012. But Mr Pischetsrieder seemed to be failing to find answers to VW's persistent problems with costs, despite the arrival of a cost-cutting genius, Wolfgang Bernhard, hired from DaimlerChrysler. Then came a showdown over VW's interests in two truck firms, MAN and Scania, which Mr Piëch wants to combine and add to his empire—a deal that Mr Pischetsrieder secretly opposed. So he had to go, and Mr Bernhard is expect to follow soon. Martin Winterkorn, head of Audi, will replace Mr Pischetsrieder. He is a car fanatic like Mr Piëch, and the two men get on famously. But he must surely be mindful that one false step could easily turn him into the next of the ruthless Mr Piëch's long string of victims.

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French corporate governance

Creative construction

Nov 30th 2006
From The Economist print edition

How the Bouygues brothers worked from within to gain control of one of France's best-known groups

Landov

MAKE no mistake: virtually anybody who has invested in Bouygues SA over the past quarter of a century is better off for having done so. Shares in the French conglomerate, which includes the world's second-largest construction group as well as mobile-telecoms, television and engineering arms, are worth 60 times what they were in 1979, compared with a twentyfold increase in an index of nearly 250 leading French companies.

Behind this undeniable success lies a story of how the founding family manoeuvred during many years to call the shots. In the mid-1980s the Bouygues family (pronounced *Bweeg*) was still a relatively small investor in the company that bears its name. However, today the Bouygues brothers rank as the dominant shareholders of a firm with a stockmarket value of around €15 billion ($19.7 billion). This they accomplished without launching a takeover bid or paying a premium for control.

Instead their power has come about gradually, through a highly complex series of transactions. *The Economist* has studied dozens of private- and public-company filings covering nearly 20 years to build up five snap-shots of the group's ownership and structure. The story that emerges is a convoluted one, full of dealing in which the interests and the assets of the Bouygues family were repeatedly mingled with those of Bouygues SA. It could worry investors that all this could be done without breaking the law, especially as other families with quoted firms have had comparable schemes.

What matters, though, is that the non-family shareholders have not fully benefited from deals over the years. Moreover, because of these transactions, investors have lost influence over their company to a dominant shareholder. In essence, the Bouygues' financial cunning enabled the family to acquire stakes in companies that arguably should have been entirely in the hands of Bouygues SA. But the dealing was extremely subtle; any ordinary investor living through the drawn-out creation of the Bouygues family's stake would have found it almost impossible to follow.

This raises a broader lesson. Investors battered by scandals over stock-options and golden parachutes sometimes look to family-run companies for salvation. Although professional managers, with the advantages of time and inside knowledge, can run a business to suit their own interests, family owner-managers are often thought to be less prone to such “agency risk”. Yet the story of Bouygues SA suggests that family capitalism, so common in continental Europe, can sometimes backfire as much as any share-option scheme.

Martin Bouygues is a high-ranking member of France's corporate elite. He has run Bouygues SA, one of the pillars of French industry, since taking over in 1989 as chairman and chief executive from his father, Francis, the group's founder. As one of that country's most powerful businessmen, his friends include politicians such as Nicolas Sarkozy, France's interior minister and a likely presidential candidate.

The inheritance

By the time Mr Bouygues inherited his father's crown, the company was Europe's biggest construction group. Mr Bouygues diversified into mobile telecoms and the arm that he started, Bouygues Telecom, is now France's third-largest operator. Shareholders have also gained from the group's controlling stake in TF1, which runs France's most popular television channel. In April the group agreed to pay the French government €2 billion for its 21% holding in Alstom, an engineering group.

Mr Bouygues's position at the head of the listed company is secure. Through SCDM, a private holding company, he and his brother, Olivier, are Bouygues SA's largest shareholder, with a stake of about 18%, worth at least €2.7 billion. Because of the double-voting rights granted to shares held in the same name for more than two years, they control 27% of the votes. And employees hold another 18% of the votes (including double-voting rights).

It was a very different story in the 1980s. Near the end of that decade, Francis Bouygues's stake amounted to just under 8%, though he could count for backing on the group's then largest shareholder, Crédit Lyonnais, at the time one of France's largest banks. On his death in 1993, this stake, which had been diluted to only 5% and now amounts to only 1.6%, passed to his widow, who presumably votes with her sons. So long as the employees also side with the family, the brothers can call on a virtually impregnable 46% of the vote.

Lawyers for the Bouygues family say that at all times the family and the board of Bouygues SA have acted correctly. Where necessary, they say, transactions were endorsed by legal and other professional opinions. Bouygues SA's excellent performance, they assert, is the best proof that the company has been properly managed and that shareholders have prospered under the stewardship of the family.

Yet Martin and Olivier Bouygues have done even better. They started with nothing except their father's name and now dominate a company worth €15 billion. How did this happen?

Snapshot one: The House of Bouygues

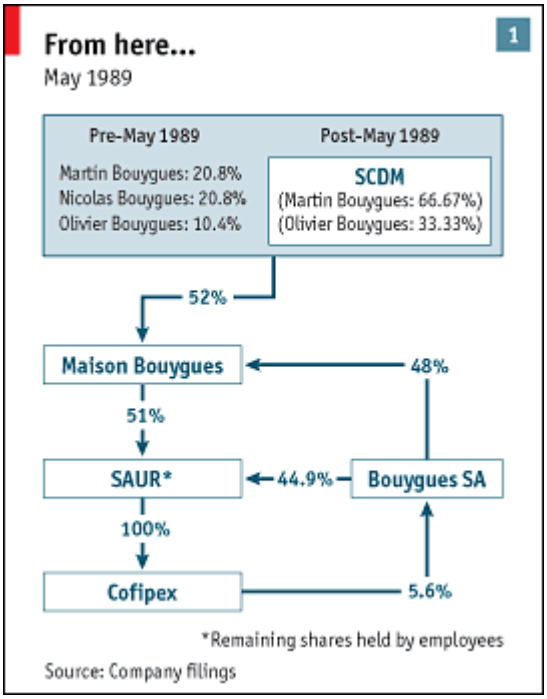
The beginnings were modest enough. After joining the family business in 1974, Martin Bouygues cut his business teeth by setting up Maison Bouygues, which sold prefabricated houses, with his two brothers (one of whom, Nicolas, later left the business). Founded in 1979, the company was France's second-largest of its kind within five years, with sales of FFr1.4 billion (then $160m). But Bouygues SA failed to benefit fully from the venture because it was not the new firm's only, or even its majority, shareholder. The Bouygues brothers subscribed for a total of 52% of Maison Bouygues's shares and Bouygues SA the other 48% (see chart 1).

On the face of it, Bouygues SA's decision to share the risk with the brothers was an odd one. The business was a natural extension of the Bouygues group's existing housebuilding activity. With just FFr5m in initial share capital, the business was cheap to set up and, because Maison Bouygues's customers put down deposits, its financing costs were low. Lawyers for the brothers say that the board of Bouygues SA decided on the size of the firm's stake. The most likely explanation for the brothers' controlling stake is that their father wanted them to be in charge.

On the ground that it was Maison Bouygues's largest shareholder, Bouygues SA claimed to be the firm's controlling shareholder. This meant it treated Maison Bouygues as a subsidiary for accounting purposes. So all of Maison Bouygues's sales counted as part of the Bouygues group's overall turnover,

all of its profits as part of the overall profits and so on. Perhaps this was attractive because it put the best complexion on the sales and profits of Bouygues SA, but, intentionally or not, it obscured the fact that Bouygues SA did not own more than 50% of Maison Bouygues.

The Maison Bouygues episode is simple and on a modest scale. But it set the pattern for other deals. Not only were shareholders in Bouygues SA deprived of a commercial opportunity, but their interests were also mingled with those of the Bouygues family.



Snapshot two: Down the drain

That pattern was to be repeated far more ambitiously in the water industry. The two giant utilities, Générale des Eaux and Lyonnaise des Eaux, which dominated the running of water and sewerage for local authorities, were diversifying into construction. Francis Bouygues wanted to move into their industry.

In 1984 he negotiated the purchase of 96% of SAUR, France's third-largest water company, for FFr424m. Bouygues SA's management reported that the company had acquired a majority stake in SAUR. But, as with the prefab-housing business, this was not strictly true: Bouygues SA bought only 45%. In fact, SAUR's majority shareholder was Maison Bouygues, which snapped up the other 51% (leaving 4% with SAUR's employees—see chart 1).

Again, the effect of this arrangement was to put Bouygues SA's investors at a disadvantage. Taking account of its shareholdings in SAUR directly and indirectly, through Maison Bouygues, Bouygues SA's overall economic interest in SAUR was 69.5% and the brothers' interest a mere 26.5%. But the splitting of Bouygues SA's interest into a direct stake and an indirect stake deprived its investors of control of SAUR. On the other hand it was hugely advantageous for the brothers: they controlled Maison Bouygues, so they could also call the shots at SAUR.

So why did Bouygues SA not have a direct stake of 69.5% in SAUR? Or, indeed, why was SAUR not a wholly owned subsidiary of Bouygues SA? Lawyers for the brothers say only that Bouygues SA's board, which included representatives from Crédit Lyonnais, the largest institutional shareholder, approved the size of the firm's stake.

Snapshot three: The house of bricks

With these companies under their control, the brothers set about using them to amass a big stake in Bouygues SA. There was no doubting the family's dynastic ambitions. In the mid-1980s Francis had commissioned a grandiose headquarters near Paris that was modelled on the Palace of Versailles. Francis was determined to create a commercial dynasty. He appointed Martin to the board of Bouygues SA as early as 1982, followed by Olivier in 1984. Given his own relatively small shareholding, even those appointments could create the impression he was confusing the family's interests with shareholders'.

But that lack of a large holding in the group left Bouygues SA vulnerable to a hostile bid. That must have been a grave concern to the brothers, because it threatened to deprive them of their patrimony. (By contrast, Bouygues SA's other shareholders gained from the possibility of a bid, because it could boost the value of their shares.)

SAUR was the ideal vehicle for buying shares—it had a stable cashflow and almost no debt. In 1988 it channelled borrowed money into Cofipex, a subsidiary, which then bought shares in Bouygues SA. Lawyers for the brothers explain that the share-buying was designed to see off the late Robert Maxwell, a crooked British media magnate, who was raiding the stockmarket for shares in Bouygues SA. Maxwell could, they claim, have got his hands on the group and would have broken it up.

By mid-August 1988, Cofipex had bought at least 5% of Bouygues SA. An unusually large number of

Bouygues SA's shares—equivalent to one in six—was traded in the last two weeks of September, when the press speculated about possible raiders, including Mr Maxwell. By the end of 1988, Cofipex (with a subsidiary) owned nearly 10%, making it the second-largest shareholder.

From the brothers' point of view, this purchase was highly attractive. Bouygues SA's shareholders were, in effect, footing most of the interest bill on SAUR's borrowings, because they had the greater economic interest in Maison Bouygues and SAUR. Yet the brothers controlled the shares; they, rather than the rest of Bouygues SA's shareholders, controlled Cofipex. That was a consequence of the fact that legal control did not reflect the underlying economic interests.

The full significance of the brothers' power started to become apparent in the accounts for 1988. Until then, Bouygues SA consolidated each line of Maison Bouygues's accounts (and those of Maison Bouygues's subsidiaries, SAUR and Cofipex). This put the group's sales and profits in the best light, though it did not affect the underlying cashflows. Hence the consolidated balance sheet for 1988 shows Cofipex's stake in Bouygues SA as shares that the group held in itself. This implied that they were the property—and under the control—of Bouygues SA's shareholders.

But that was not what the brothers wanted at all. Their aim was to control a big stake in Bouygues SA to stop anyone else getting hold of the company. The solution was paper shuffling. In May 1989 they transferred their individual shareholdings in Maison Bouygues to SCDM, a new holding company. As SCDM was then Maison Bouygues's majority shareholder with 52%, Bouygues SA could no longer claim de facto control. This meant Bouygues SA could not consolidate Maison Bouygues as before.

No money changed hands, but the 10% stake in Bouygues SA—the second-largest, remember—passed from the group's shareholders to the brothers. Bouygues SA's accounts for 1988 make no mention of the involvement of SCDM or the brothers in this “transaction”. The attentive reader of the accounts has only an obscure footnote to go by. Note, too, that this transfer was possible only because Bouygues SA's stake in SAUR was divided between a direct 44.9% and an indirect 24.5%. If it had taken a single direct holding, it would have controlled SAUR and Cofipex, and thus never have lost control of the 10% stake.

After this sleight of hand, the distancing of Maison Bouygues from Bouygues SA gathered pace. The brothers set about eliminating Bouygues SA's stake from Maison Bouygues. In October 1989 the group's stake in Maison Bouygues was diluted from 48% to 34% when it did not subscribe for a capital increase. Perhaps this was because the prefab-housing business was not doing well. And in 1990 the brothers' holding company, SCDM, bought Bouygues SA's residual stake for FFr226m.

It is hard to see how this was in the interests of Bouygues SA's investors. But then, they would have struggled to find out what was going on. The group's filings contained the legal minimum of information about these deals: there was no explanation; no direct disclosure of the brothers' involvement; and no information to assess the fairness of each step. Lawyers for the Bouygues say everything was done in accordance with the rules.

Snapshot four: Spanish steps

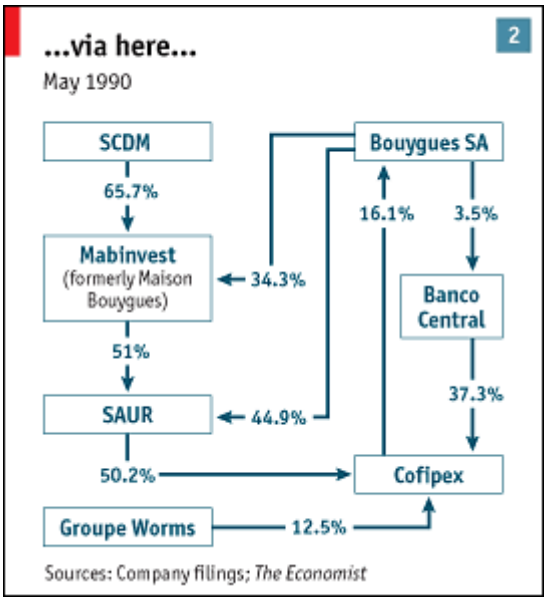
All along the question remains who gained from each transaction, the shareholders of Bouygues SA or the brothers? Take, for example, another deal in December 1989, when Bouygues SA spent FFr924m—equivalent to nearly a quarter of its net assets—on a 3.5% stake in Banco Central, a big Spanish bank now part of Grupo Santander. At the time Banco Central's management wanted friendly investors to strengthen its hand against a hostile group of shareholders. Martin Bouygues was appointed to the bank's board.

The deal was announced at a press conference in Madrid. *Le Monde*, a French daily, reported that Mr Bouygues spoke of co-operation between the two groups—Banco Central had a big stake in one of Spain's largest construction firms. In fact, Bouygues SA seems to have got little out of the investment; it lost money on the sale of its shares in 1996-98. Lawyers for the Bouygues say that the Bouygues group's sales in Spain increased from FFr560m in 1989 to FFr1.7 billion in 1991. They add that Bouygues SA profited and still profits from the association.

But the brothers have done better. Just four months later, in April 1990, Banco Central took a reciprocal shareholding in Bouygues SA—but in an oddly circuitous way. Although the bank could have bought shares in Bouygues SA directly, it subscribed FFr600m for a minority stake in Cofipex. (A banking subsidiary of Groupe Worms, a co-investor with Bouygues SA in several companies, invested a further

FFr200m.) Instead of buying a liquid stake in a quoted company, Banco Central acquired an illiquid minority stake in Cofipex (see chart 2).

The two banks were very much junior partners. Each had a director on Cofipex's board. But their shares had restricted voting rights, which prevented them from having a veto at some shareholders' meetings. So the boss of Bouygues SA, one Martin Bouygues, had used his shareholders' money to invest in a Spanish bank that had later given its backing to a company controlled by the very same Martin Bouygues.

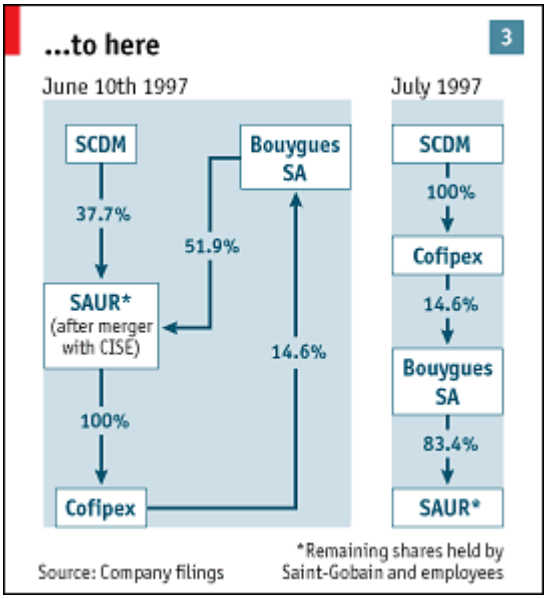


Lawyers for the Bouygues family say that Banco Central's investment in Cofipex was not contemplated until after the deal between Bouygues SA and the bank in December 1989. They add that the price SAUR paid for the bank's stake in Cofipex when it bought out the bank was based on the market price of Bouygues SA's shares.

Snapshot five: Equity swap

In 1997 it was time for the brothers to unravel the whole grand scheme—and emerge in today's almost unassailable position. The deal amounted to a big asset swap. The brothers, using their holding company, SCDM, became the sole owners of Cofipex and hence of its shares in Bouygues SA. This they accomplished by getting SAUR to buy the brothers' shares in the water company; in return, SAUR gave them Cofipex and FFr500m in cash. The swap was structured so that double-voting rights attaching to Cofipex's shares were not lost. In effect, Bouygues SA had bought from the brothers the stake in SAUR that it had declined to buy 13 years earlier—and at 12 times the price (see chart 3).

Shareholders got sparse information; they were told JPMorgan had judged that the deal was fair, but this opinion was not published and lawyers for the Bouygues would not supply a copy. They say that it was “communicated” to France's stockmarket regulator, and that everything was done in accordance with the rules.



But there is little doubt who got the better deal. Bouygues SA made a post-tax profit of €221m when it sold SAUR to a private-equity firm in November 2004 for just over €1 billion. Meanwhile, SCDM's stake in the family firm had increased more than threefold in value, to €1.2 billion.

The brothers' lawyers say that Bouygues SA has always had high standards of corporate governance, with directors independent of the Bouygues family. They add that the group was one of the first to provide more information than the law required. But, if this story illustrates best practice in France, what has happened to investors in companies that have failed to match these high standards?

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The world economy

Rebalancing act

Nov 30th 2006 | LONDON AND WASHINGTON, DC
From The Economist print edition

The past week's ructions in the currency markets are a sign of changing perceptions of the world economy

Get article background

WELL before it happened, it looked obvious. America's economy is slowing; the Federal Reserve last raised interest rates five months ago; and the country has a vast current-account deficit. Europe's economies have been springing mostly happy surprises: the European Central Bank is almost sure to increase rates on December 7th (see article) and will probably carry on doing so next year. Asia looks strong as well, and Japan's central bank has been wondering when it will be safe to raise interest rates again. Sooner or later, the dollar had to fall.

And so it has. Against the euro, the dollar had been dropping, little by little, for more than a month before it broke through $1.30 on November 24th, going on to hit a 20-month low (see chart). Against the pound, on November 28th the greenback was at its weakest for two years. It slipped against the yen too, though it later made up the ground. Against the yuan—politically the most sensitive exchange rate these days—it continued a stately decline.

Markets have been pricing in not only changes in relative growth rates—notably America's and Europe's—but also their implications for monetary policy. This global rebalancing was emphasised this week by the OECD in its twice-yearly *Economic Outlook*. In the spring the OECD forecast that America's economy would grow by 3.6% this year and 3.1% next year; now it reckons on 3.3% in 2006 and only 2.4% in 2007. For the euro area, it has raised its forecasts, from 2.2% this year and 2.1% in 2007 to 2.6% and 2.2% respectively.

So far, America is following the OECD's script. A bevy of statistics this week pointed to a weakening economy. There was more bad news from the housing market. New-home sales fell by 3.2% in October, the first drop in three months, and the stock of unsold new properties continued to rise. Although sales of existing homes picked up a bit last month, here too the unsold stock increased, to 7.4 months' supply.

The message on prices was mixed. Officially, the median price of new homes rose in October; that of existing homes fell by 3.5% from a year ago, the biggest drop since estate agents began keeping records in 1968. Both numbers should be taken with a pinch of salt. They do not take into account changes in the type of houses sold, nor, for new homes, the incentives that builders offer.

The main reason for the dollar's jitters was evidence that the housing bust may be infecting the broader economy. Consumer confidence, as measured by the Conference Board, fell further than expected this month. Wal-Mart, America's biggest retailer, has had a dismal November. And judging by their orders of durable goods, businesses may be scaling back spending. Orders for capital goods, excluding aircraft and defence, fell by 5.1% in October, the first drop in six months.

The gloom was partly countered by unexpectedly rosy revisions to America's third-quarter GDP. The dollar firmed on November 29th as new figures showed output was up by 2.2% at an annual rate between July and September, compared with the original estimate of 1.6%. On careful inspection, however, the figures are less cheery. Much of the increase is thanks to higher inventories, which bodes ill for future output.

Pessimists argue that recession is just around the corner: Nouriel Roubini, of Roubini Global Economics, predicts a recession by the middle of 2007. That is still a minority view, but financial markets clearly expect things to get at least bad enough for the Fed to start cutting interest rates soon. The prices of federal-funds futures suggest that investors think short-term interest rates are likely to decline within a few months.

One person who does not sound gloomy is Ben Bernanke, chairman of the Fed. This week, in his first speech on the economic outlook since July, Mr Bernanke painted a much brighter picture. Yes, the economy was slowing, but this “deceleration” was “roughly along the lines envisioned” by the Fed in July. Mr Bernanke said output growth could be “modestly below” its trend rate in the very short term, but made clear that he expected the economy to be growing at its sustainable rate within a year. Far from hinting at lower interest rates, he noted that inflation was still “uncomfortably high”: “whether further policy action against inflation will be required”, he added, would “depend on incoming data”.

Such talk may burnish the Fed's inflation-fighting credentials but is unlikely to mean much. The economy is clearly slowing and the news on inflation is benign. The latest GDP figures revised down the deflator for personal-consumption expenditures, the central bank's favourite inflation gauge, to an annual 2.4%. The pace of wage and salary growth was also much slower than first reported.

America's interest rates are clearly not going up. Nor, however, are cuts imminent. Mr Bernanke's speech showed that he is not unhappy about the economy's deceleration. That suggests a bout of weak growth will not mean lower rates. So dollar bears may be right about the direction of America's economy, but wrong about the consequences for monetary policy.

Those chirpy Europeans

There are two sides to any exchange rate: Europe's prospects matter as well as America's. In 2006 the euro area looks likely to grow at its fastest pace for six years. That its GDP growth is modest by American standards, largely because of its slower population growth, is not the point: what matters is that this year it has surprised the soothsayers time and again. That has lifted its currency, and not just against the dollar. A euro now buys more yen than at any time since the single currency was created.

Detailed figures for euro-area GDP, published on November 30th, confirmed a slowing from a stunning second quarter to a much duller third. But the 0.5% growth in the third quarter—roughly in line with the zone's sustainable rate—seems to have been built largely on domestic demand rather than net exports. Europe may therefore be well placed to withstand an American slowdown.

By no means is everything in the euro zone wonderful: thanks in part to a fall in companies' stocks, French GDP was flat in the third quarter. But there are plenty of good signs, notably in the euro area's biggest member, Germany, which for many years was a source of unremitting misery.

Despite disappointing retail sales in October and weak wage growth, German consumer confidence is at a five-year high. It helps that unemployment is falling, as it did in November. Business sentiment is also strong. The index of current conditions prepared by Ifo, a Munich economic-research institute, is at a 15-year high; Ifo's expectations index is also on the rise. Granted, the economy may be flattered at the end

of this year by people's anticipation of an increase in value-added tax in January, as they spend now rather than pay more later. Although a dip is likely once the tax goes up, the economy looks unlikely to buckle.

All of this, coupled with rapid monetary growth in the euro area, suggests that the ECB will raise rates not only next week but also next year: when and by how much may well depend on how the zone copes with Germany's VAT increase and a planned tax rise in Italy. With the doubts about America's growth and interest rates, this makes the euro attractive.

So attractive, perhaps, that some wonder whether its rise could clobber Europe's exports, slow its economy and persuade the ECB not to raise rates after all. That looks a long way off. David Mackie, of JPMorgan, says that the euro would have to rise to $1.43 to make the ECB raise rates by a quarter of a percentage point less than it would otherwise have done. With rates only at 3.25%, there may be much more than a quarter-point increase to come.

Even the euro zone's finance ministers, who met this week, do not sound perturbed by the currency's climb. France's Thierry Breton was an exception, but his nervousness was dismissed as a “Pavlovian response” by Nout Wellink, the president of the Dutch central bank and one of the ECB's rate setters. As long as it has a stronger economy, Europe seems ready to live with a stronger currency.

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Banking in Italy

Renaissance

Nov 30th 2006 | MILAN AND ROME
From The Economist print edition

At last, Italy's banks are on the mend

ITALIAN bankers have been doing deals with uncharacteristic *allegria* during the past year, making up for lost time. On December 1st, shareholders of Banca Intesa and Sanpaolo IMI were due to approve a merger to create a bank with 5,500 branches, by far the biggest network in Italy. It will have a market value of €65 billion ($85 billion), close to UniCredit, the country's largest bank by that measure.

On the same day BNP Paribas, a large French bank, was scheduled to meet investors in Rome to unveil its plans for Banca Nazionale del Lavoro (BNL), a Rome-based bank it acquired in May. That was the second of two recent foreign purchases that have helped dynamise Italian banking; at the end of last year, ABN AMRO, a Dutch bank, bought Banca Antonveneta, a medium-sized institution in the north-east. "These two deals involving foreign banks unblocked a system that was stuck solid," said Luigi Abete, BNL's chairman.

There have been other mergers since the tie-up of Intesa and Sanpaolo was announced in August; not of the same scale, but also highly significant in their own way. They involve *banche popolari*, mutual banks that control about 10% of Italy's credit market. In October, Banca Popolare Italiana announced it had chosen Banco Popolare di Verona e Novara (BPVN) as a partner. One month later, Banche Popolari Unite (BPU), itself the result of a merger of three banks in July 2003, agreed on what seems to be a takeover of Banca Lombarda. In terms of branch networks, both merged entities will leap above former heavyweights Capitalia and Monte dei Paschi di Siena to occupy third and fourth places respectively. The deals are expected to win shareholders' approval early next year.

This is as much dealmaking in one year as might have been expected in five, says one breathless banker. Several forces have helped flush out the blockages. First, Mario Draghi, the central-bank governor drafted in this year from Goldman Sachs, an investment bank, has brought with him the welcome view that mergers should be market-driven rather than centrally-planned in the governor's office, as they previously were (at the cost of great national embarrassment under Antonio Fazio, Mr Draghi's predecessor). Politicians are still far too intrusive, but they have been somewhat won over by the creation of strong domestic banks in the latest merger wave. Both Intesa and Sanpaolo managed to outmanoeuvre big, predatory shareholders to join forces. And the charitable foundations that 15 years ago owned much of Italy's banking system now seem more like normal investors than relics of the bad old days.

Banca Intesa's managing director, Corrado Passera, says its foundations have given it freedom to grow. Holding 7%, the Compagnia di San Paolo, a Turin-based philanthropic foundation that once owned Sanpaolo IMI, will be the biggest Italian shareholder in the entity created by the merger with Intesa; it sees its role as providing stability. Yet its stake might one day be diluted further. "Our links with the city of Turin are more important than our ties to a bank," claims Franzo Grande Stevens, the Compagnia's chairman.

What will this consolidation mean for the banks' customers? Italy's banking system has long been inefficient and expensive for users, but although the large Italian banking groups' cost-to-revenue ratios are worse than those of Spanish banks, they are better than French and German ones. Mergers should improve them further.

And the *festa* may well continue. Mr Passera says that Intesa and Sanpaolo need two to three years to complete their merger; then they will look abroad. Meanwhile, UniCredit, which acquired Germany's HVB last year, needs to expand in Italy. So does Capitalia, which has been a surprising spectator to the merger boom. If legislation is passed exposing the *banche popolari* to takeover, they will be prey. And as

banking in Italy becomes more concentrated, it will become even more tempting for foreigners.

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Buttonwood

By the sweat of their brows

Nov 30th 2006
From The Economist print edition

No amount of hard work can sustain the feverish growth of profits

CAPITALISTS are in clover. Profits have soared since the dark days of 2001 and companies are so flush with cash that they are buying back their own shares, merging and acquiring each other as if the good times will never end.

A Marxist would say this is a classic case of big business exploiting the workers. Funnily enough, some out-and-out capitalist economists would agree. They argue that profits in America, for example, are at a 40-year high as a percentage of GDP precisely because capital is winning at the expense of labour. Globalisation has brought the Indian and Chinese workforces into the world economy, which has kept the lid on wage costs. That has allowed the economy and profits to grow, without the kind of pay-and-price spiral that occurred in the 1970s.

That is the theory, at least. But economists have always been tempted to dream up grand theories for trends that are just part of the economic cycle. Profits are very dependent on whether the economy is expanding or contracting: businesses have fixed costs and when demand is strong, revenues rise faster than costs; when demand is weak, they fall faster.

So the reason American profits have been remarkably strong may originate closer to home than in Shanghai. Nick Carn, a strategist at Odey, a hedge-fund group, says it is pretty simple: companies' revenues are determined by the pace of consumer spending; their costs are largely driven by wages. Profits have grown because Americans have borrowed money to spend more than they have been earning. This cannot continue forever.

Another reason why profits cannot remain permanently high is the iron discipline of capitalism itself. If returns on capital are high, then new companies will emerge to take advantage of this. And as existing businesses invest more capital, eventually more competition will drive profits back down.

The process, however, can be quite slow. In the current cycle, there has been no big splurge on business investment—indeed, judging by the latest data on America's durable-goods orders, it might even be weakening. This might be because companies learned their lesson from investing too much during the dotcom boom. Alternatively, they may be cautious about the future and have no conviction that the good times will last.

So far, there are few signs of trouble. According to Morgan Stanley, in the third quarter 71% of companies in the S&P 500 index reported figures that beat expectations, the best result in more than two years. The annual rate of profit growth was 21.2%, some six percentage points higher than people had expected. The numbers, however, rather overstate the improvement. The comparison with the third quarter of 2005 looks particularly good because of the disruption caused by Hurricane Katrina a year ago. Fourth-quarter earnings will not be quite so impressive. David Rosenberg of Merrill Lynch says that the consensus among forecasters is that annual profit growth will be 9.8% in the fourth quarter, the first time in 14 quarters that growth would not be in double digits.

Also, growth appears distinctly patchy when looked at industry by industry. According to Mr Rosenberg, financial services (which contribute over a quarter of all profits) are expected to produce 31% annual growth in profits. Strip them out, and the rest of the market will muster only 2%.

You also have to be careful about the difference between reported profits and the “real” numbers. In the late 1990s, the profit share of American GDP was falling while listed companies repeatedly announced bumper earnings. As subsequently became clear, there was a good deal of manipulation behind those

reported numbers.

The trouble is that economic data can also be unreliable. It looked, on the basis of figures published earlier this year, as if the trend in productivity was deteriorating while American unit labour costs were rising sharply. That would have been bad news for profit margins. But the revised third-quarter GDP numbers, announced on November 29th, offered a much more benign picture of wage costs.

For those worried about a sudden shift in sentiment, the good news is that investors seem to be prepared for a slowdown. Of fund managers surveyed by Merrill Lynch in November, none thought profits would “improve strongly” over the next 12 months, while 59% thought they would “deteriorate slightly”.

The markets also have some leeway for disappointment. In terms of price/earnings ratios, share valuations have steadily fallen since the American market began rallying in late 2003. This, say the bulls, still gives the market plenty of scope to rise, as valuations often go up sharply in the later stages of bull markets.

Nevertheless, caution is needed. Although investors are braced for a profits slowdown, they are not ready for a slump. That would give neither the owners nor the workers cause for celebration.

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Indonesia's bond market

The price of risk

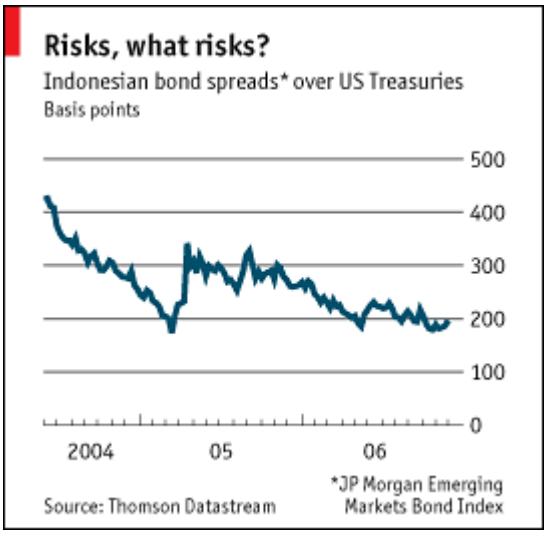
Nov 30th 2006 | HONG KONG
From The Economist print edition

Bullish lenders shrug off the growing threats in Indonesia

MODEST-sized bond offerings even in volatile countries such as Indonesia do not usually set tongues wagging. They are manufactured in droves on the financial equivalent of an assembly line. But a $110m offering by PT Pakuwon Jati Finance this month has provided a gripping insight into the audacity, if not recklessness, of emerging-market creditors.

Pakuwon Jati is an unremarkable property developer. It earned $4m last year and has a market capitalisation on the Jakarta Stock Exchange of $106m. Like other developers, it has a thirst for capital and no qualms about borrowing. It is also subject to the risks common to all issuers in Indonesia. According to its bond prospectus, these include: social unrest (violent and non-violent); insurrection; earthquakes and active volcanoes; and "various bombing incidents directed towards the government and foreign governments and public and commercial buildings frequented by foreigners", including the stock exchange and the airport.

But the acid test of creditors' appetite for risk was a new danger also spelled out in several places in the prospectus. In November, secured creditors in a $500m bond sold in the mid-1990s by a subsidiary of Asia Pulp & Paper, a big Indonesian company, discovered that their claims were void. The structure used in the bonds—a Netherlands registration and an agreement to take disputes to court in New York—was determined to be untenable and unenforceable against Indonesian debtors. The structure, aimed at assuaging concerns about Indonesian law, is commonly deployed. Pakuwon Jati was the first issuer to use it since the verdict. In its prospectus, the company acknowledged that creditors might find it "difficult or impossible" to pursue claims. To the lenders, that made not a blind bit of difference.



Pakuwon Jati sold the five-year bonds at 12%, just what similar single B-rated borrowers had paid previously. It was not much more than the 10% that would be offered by a similarly rated developer in more stable Hong Kong.

This reflects enormous bullishness about Indonesia, where spreads on government bonds have halved in the past two years (see chart). Pakuwon Jati also sets a benchmark. It is a small company in a difficult place selling bonds that have no more protection than a share. A 12% reward shows what slim pickings are available even to the boldest lenders.

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Banks and avian flu

The drawbacks of homework

Nov 30th 2006 | LONDON AND NEW YORK
From The Economist print edition

Working from home may not be the answer to a flu pandemic

NOT much is known about how the financial world would cope with an outbreak of avian flu. But two things are clear: it is a terrifying prospect and the response would be different from that to other potential disasters, such as a terrorist attack. In recent years, terrorism in New York and London has caused sharp, but short-lived, shocks to the financial system. But a flu pandemic, in the words of one financial regulator, would be more like a neutron bomb: “The buildings would be left standing with no one left in them.” It would last longer, come in waves, and people would instinctively shun each other to avoid the spread of the virus.

For that reason, many banks have assumed that in the event of a person-to-person pandemic, high absentee rates would mean important jobs would have to be done from home. Since fears of a death toll in the millions surfaced last year, they have made contingency plans along those lines to ensure the payments system keeps going and stockmarkets stay open.

Lehman Brothers, for example, has tested new techniques in the homes of some of its American traders and installed hotlines so that dealers can talk to each other. There are plans to produce a Wall Street-wide directory to keep traders in touch from home. Regulators have sought to ensure that traders operating from home do not break the law.

In short, home-working has been seen as one of the best ways for financial institutions (and other industries) to mitigate the appalling consequences of a pandemic. According to George Hender of the Financial Services Sector Coordinating Council, which helps American banks plan for disasters, “99% of the business interruption plans [of the financial industry] are based on telecommuting.”

Not for much longer, perhaps. In the six weeks up to November 24th, 70 finance firms in Britain simulated a five-month-long flu pandemic which at its peak meant almost half the workforce was absent. Led by the Financial Services Authority (FSA), it aimed to test how the financial sector would cope with a drawn-out emergency.

The FSA was impressed at how well the system worked. But one of the main (preliminary) findings is that home-working is not the “get-out-of-jail free” card some had hoped for. “It's easier said than done,” concludes John Milne, head of Business Continuity Management at the FSA. Banks, he claims, were not confident enough about their ability to police compliance and controls to let trading be undertaken from home for a long period (partly because so many of the banks' compliance staff would also be absent). Some people (to their surprise) missed their IT help desks when out of the office. Homes lacked back-up power generators. Long periods of home-working even caused backache, it was discovered. So banks chose to keep a skeleton staff in the office instead. Trading volumes “conflated”, says Mr Milne, but markets remained open.

A real pandemic, of course, would throw up a host of other problems. How do you encourage key staff to come to work if panic breaks out? Do the chosen few receive antivirals? How do staff travel to work? Who provides food and cleaning? How do parents look after children kept home from school? And what happens if other utilities, such as phone lines and electricity, stop working?

All of which suggests exercises such as this one are useful for keeping people focused on the problem. But no one should believe that they tell the whole story.

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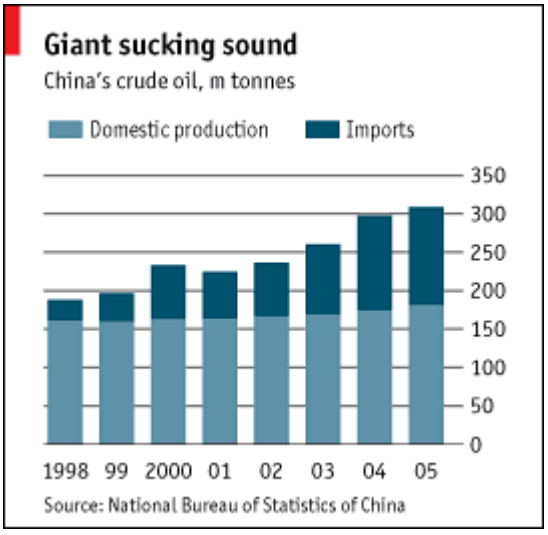
About sponsorship

China and oil

A cushion of black gold

Nov 30th 2006 | BEIJING
From The Economist print edition

The Asian powerhouse quietly begins to stockpile crude



PREDICTING China's impact on global oil demand is difficult enough at the best of times. But now that it is beginning to store emergency supplies of oil in "strategic reserves", uncertainty is all the greater. It was not until October that China confirmed reports that it had begun filling a newly built reserve depot in Zhenhai in the eastern province of Zhejiang at least two months earlier. Its plans are shrouded in secrecy.

Given the likely scale of China's reserve build-up, this uncertainty matters a lot to the market. In the course of its transformation from Asia's biggest exporter of oil two decades ago to its second-biggest importer now, China has become increasingly anxious. Economic planners worry about the impact of oil-price surges on growth. Security planners fret that around half of the imported oil comes from an unstable Middle East and that the oil is mostly shipped along sea lanes through south-east Asia that could be blocked by America. China wants enough oil in hand to ensure that America cannot hold it to ransom.

But China has been in no rush. It started considering plans for strategic reserves in 1993, and began building them only two years ago. It plans to build four coastal bases, at Zhenhai, Daishan (also in Zhejiang Province), Huangdao in Shandong Province and Dalian in the province of Liaoning. But after it completed the first cluster of 16 above-ground tanks in Zhenhai last year, high crude prices deterred it from filling them immediately.

State-controlled newspapers have reported that deliveries began in August when a Russian tanker docked in nearby Ningbo with crude for storage at Zhenhai. Other reports say crude may have been delivered before this. Some 3m barrels are reported to have been stored so far. This is around 10% of Zhenhai's total capacity, which itself is the equivalent of less than five days of China's crude-oil consumption. Officials have said China's aim is to store 100m barrels within five years.

The government has estimated that the total cost of building the bases and filling them will be 100 billion yuan ($12.7 billion) by 2020. But since it has apparently not decided how much oil it plans to store, this figure can be only a guess. A senior planning official last year said there were calls for reserves equal to between 90 and 120 days of consumption. This is a lot of oil. China's consumption last year of over 300m tonnes (see chart above) is expected to increase by around 50% by 2020.

The recent drop in oil prices has prompted speculation that China might accelerate the build-up. Niu Li of the State Information Centre, a government think-tank, says buying more oil now would not affect global markets. Mr Niu says China should use its reserves only in an emergency, such as a cut in supplies, rather than in response to price fluctuations. But a reported deal giving Sinopec, a Chinese state-run oil company, control over a third of the storage capacity at Zhenhai has raised concerns that the pursuit of profit might influence decisions about when to release the reserves.

China is not oblivious to such anxieties. It has talked to the International Energy Agency, a quasi-governmental group of oil-consuming countries, about ways of managing strategic reserves. Yang Fuqiang of the Energy Foundation, an American NGO, says he believes China will soon introduce regulations governing how the reserves should be deployed. But it has shown little desire to shed light on

its purchasing strategy. A Chinese official, confirming that oil had been stored at Zhenhai, said only that this was the first step on a journey of 10,000 miles.

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The Mannesmann trial

V for victory

Nov 30th 2006 | FRANKFURT
From The Economist print edition

The Ackermann decision should allow Deutsche Bank to spread its wings

JOSEF ACKERMANN, the head of Deutsche Bank, can be himself again. During the retrial of the Mannesmann case, which ended abruptly this week, he had been compelled to sit like a naughty schoolboy along with five co-defendants on the benches of a Dusseldorf criminal court. Worse, he had spent two years travelling up and down Germany trying to win back politicians, businessmen and a hostile press after his public-relations gaffe during the first Mannesmann trial: a two-fingered Churchillian V for victory when making his first court appearance.

The six defendants had faced charges that €57m (then worth $53m) in bonuses awarded to former Mannesmann officers, in the wake of its takeover by Vodafone, were inappropriate and had "damaged" the company. In 2004 they were acquitted, but the Federal Supreme Court ordered a retrial. On November 29th the defendants, their prosecutors and the retrial judge agreed to shelve the new proceedings on the understanding that the defendants would make public and charitable payments according to their means. For Mr Ackermann that meant €3.2m ($4.2m) out of his own pocket—around 20% of his 2005 income.

Reuters

An expensive gaffe

For Deutsche Bank it is a good result: Mr Ackermann is back on the job full-time. But will he now care as much about Germany? This year the bank bought, and arguably overpaid for, Berliner Bank, a smart bank in the capital, and Noris Bank, a down-market retail bank. Mr Ackermann also appeared at gatherings in Germany as never before.

But he is a Swiss banker more at home in Zurich, London and New York. The engine-room of Deutsche Bank's wealth is London and its battleground is the global capital market.

So does Mr Ackermann need to keep up the German charade? Some would say yes. Deutsche Bank still needs to increase in size in Germany as a counterweight to global investment banking. But it also needs a more solid international franchise if it is to play in the big leagues. Now is its chance.

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About sponsorship

Economics focus

The oracle becomes less oracular

Nov 30th 2006
From The Economist print edition

How central bankers communicate, clearly and not so clearly, with the outside world

IN ALL probability, the European Central Bank will raise interest rates on December 7th for the sixth time in a year. Economists who follow the ECB are pretty sure of this, largely because Jean-Claude Trichet, the bank's president, said a month ago that “strong vigilance remains of the essence.” To ECB-watchers this unremarkable phrase is as close to a commitment as they could ask for: Mr Trichet has spoken of “vigilance” before every one of the past year's rate increases. And Mr Trichet knows his words are read this way. So rates are all but sure to go up.

Only a few years ago most central banks gave no clues to their thinking. Until 1995 the Federal Reserve did not even publish its target for the federal-funds rate: people in the markets had to work things out for themselves. For some central banks, taking financial markets by surprise with a sudden increase or cut in rates was almost a matter of honour. These days, however, central banks often give markets a steer. The Fed, like the ECB, has used phrases it knows will be easily decoded. At every meeting from May 2004 to November 2005, it signalled one quarter-point rate increase after another by saying that it believed “policy accommodation can be removed at a pace that is likely to be measured.” The words changed as the time for a halt drew nearer (the rate has remained at 5.25% since June).

A couple of central banks are much more daring. They talk plainly not only about next month's rates but also about next year's or the year after's. The Reserve Bank of New Zealand has been publishing interest-rate forecasts since 1998. In 2005 Norges Bank, the Norwegian central bank, began projecting rates three years ahead. How far can central bankers go?

Don't be shy

Central banks have become more open largely because of a change in the way monetary policy is thought to work. The old view of it was rather mechanical: pull the interest-rate lever up and, via banks and bond markets, lending and spending would fall; pull it down and they would rise. Now policy is thought to operate mainly through expectations. Central banks see the setting of today's interest rates as part of a wider task: giving markets, consumers and firms reason to expect that future rates will keep inflation in bounds. If they believe inflation will stay at, say, 2% or so, they will act accordingly and thus help to hold it near the mark.

But how best to foster this belief? Part of the answer is to define explicitly what the central bank is trying to do—for example, hit a target for consumer-price inflation. Some central banks also set out formally how they think about the links between interest rates, inflation and other economic variables. Some also explain their policies at regular press conferences. The ECB and the Bank of England do all three of these things. So far the Fed has got along without them. It does, however, publish the minutes of its rate-setting meetings—like the Bank of England but not the ECB.

More contentious is the question of whether central banks should signal future moves in interest rates, and if so how clearly and how far in advance. Some economists think that plain speaking is desirable, inevitable or both. Lars Svensson, an economist at Princeton University, has held up the Norwegian approach as a model. Michael Woodford, of Columbia, has argued that central banks with inflation targets will inevitably be driven to explain publicly their assumptions about future policy. In a recent paper* Glenn Rudebusch and John Williams, of the Federal Reserve Bank of San Francisco, present a theoretical model in which publishing central banks' interest-rate projections may improve macroeconomic policy.

One objection to this is institutional. The Bank of England, for example, drops no explicit hints about future rates. All nine members of its monetary-policy committee form their own view and vote on rates each month. The only clues to what may happen next are in its quarterly reports and monthly minutes and in any speeches that committee members may give. Agreeing on a path for future rates would be complicated. The bank projects what inflation will be on the assumption that rates follow market expectations (and, for a shorter period, assuming unchanged rates). From this you can infer—if, say, inflation seems likely to overshoot its target—that the bank is likely to have to raise rates.

This argument has some substance. That said, as Mr Woodford has pointed out, Norges Bank's policy committee manages to agree on a forecast. He has also written that it is inconsistent for a central bank to discuss its policy on the basis of assumptions about interest rates that are not necessarily its own.

A second argument against explicit rate forecasts is that markets may interpret them as a firm commitment. Thus Mr Trichet, looking only a month ahead, speaks of the need for “vigilance” but gives no guarantee that rates will rise. This argument looks weaker. The Norwegians and New Zealanders seem to have persuaded the financial markets that they are making no promises. The trick is to be informative without trying to be too precise. Norges Bank's latest *Inflation Report*, for example, provides a “fan chart” for interest rates, showing the probability distribution of rates until 2009, not a point forecast. It also shows how rates might be affected by lower inflation, a stronger economy or a weaker krone than expected.

As for Mr Trichet, he has come fairly close to committing himself already. So clear is his code that should the ECB not raise rates on December 7th he will have some delicate explaining to do—unless, perhaps, the dollar's recent slide turns into a rout. And one other thing is not in doubt: at that day's press conference, his listeners will hang on his every word.

The paper by Glenn Rudebusch and John Williams, “Revealing the Secrets of the Inner Temple: The Value of Publishing Central Bank Interest Rate Projections”, was published in October by the NBER.

Lars Svensson describes the Norwegian approach in “The Instrument-Rate Projection under Inflation Targeting”. The Norwegian approach is also set out by Jan Qvigstad, chief economist of Norges Bank. Norges Bank’s *Inflation Report* is online.

Michael Woodford’s views can be found in a paper he presented at the Jackson Hole monetary-policy symposium in 2005, “Central-Bank Communication and Policy Effectiveness”.

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Stem cells

An appointment with chance

Nov 30th 2006
From The Economist print edition

An accident with some chopsticks has led to an experimental medical treatment based on stem cells

Get article background

LIKE other fields of endeavour, science has fashions—and one of its most fashionable areas at the moment is the study of stem cells. This is a subject that provokes high passions, particularly when the cells in question are drawn from human embryos. It also encourages the lowest form of scientific behaviour, fabricating data (see article). A tragicomic stem-cell story, however, is probably a first. But a piece of research reported in this week's *New England Journal of Medicine* by Zhu Jianhong of Fudan University and his colleagues began that way. Its first subject was a woman admitted into Huashan Hospital in Shanghai with a chopstick in her brain. It ended triumphantly, though, with the trial of a treatment that may heal the sort of brain injuries that the woman in question suffered.

Stem cells are the cells responsible for making bodies, and then repairing the natural wear and tear to which they are subject while they are alive. The body-forming cells are the embryonic stem cells that are causing so much political trouble in America because obtaining them involves destroying early-stage embryos known as blastocysts. Some people think that destroying blastocysts is murder.

The repairing sort of cells, though, are uncontroversial, and are turning up in more and more places. Even tissues once believed not to change much after childhood, and thus not to need the renewing ministrations of stem cells, are yielding them. Heart-muscle tissue, for example, has recently been shown to have them.

Another place where they were not, at first, expected to exist is the brain. But they do. And that discovery meant that the unfortunate lady who had had a chopstick thrust through one of her eyes into part of her brain called the inferior prefrontal subcortex (IPS) presented an opportunity. When the utensil was removed, Dr Zhu decided to try culturing the tissue that came out with it, to see whether there were any stem cells there.

Waste not, want not

To his delight, the extracted tissue thrived and grew, and many of the cells in the resulting culture did indeed contain proteins known to be characteristic of neural stem cells. But Dr Zhu wanted to be sure that that was truly what he had.

The defining feature of a stem cell is self-renewal. When such a cell divides, at least one of its daughters is also a stem cell (the other may set off on the route to specialisation that allows stem cells to generate new tissue). The way to test whether a particular cell is a stem cell, therefore, is to grow it individually. A single stem cell will divide continuously and form a spherical colony consisting of its progeny. Other cells will not. Dr Zhu found that about 4% of the cells from his chopstick-injured patient were able to form such colonies, which confirmed his conjecture.

Thus inspired, he started collecting samples from other patients with traumatic open-head injuries (though none with quite such an unusual cause as the first). He has managed to derive neural stem cells from 16 of these patients, out of a total of 22, and believes that success depends on which region of the brain is affected. Cells from the IPS are the best source, so it seems he was lucky in his original patient.

The point of the exercise, though, was to see whether neural stem cells could be obtained reliably, with a view to using them as a treatment. For a suitable dose of stem cells might not only help a damaged piece of tissue to repair itself; it would also, if the cells in question had come from the patient who was being treated, escape attack by his immune system. This idea of self-treatment is one of the reasons adult stem-cell science is so fashionable.

First, Dr Zhu tried it out on mice (the mice in question had had their immune systems turned off, so that they would not reject the transplanted cells). He injected stem cells he had cultured from his patients into mouse brains and found that they successfully differentiated into the various cell types found in the nervous system. Just as importantly, the resulting nerve cells were able to conduct electrical impulses and could form the specialised junctions called synapses, by means of which nerve cells talk to each other.

Having shown that the stem cells worked in healthy mouse brains, Dr Zhu tried them out on injured mouse brains. Another common property of stem cells is to accumulate at sites of injury, where their services are obviously needed. In order to track the movements of the cells, his team attached tiny magnetic particles to them before they transplanted them, and also injected them with a dye. They found that cells implanted into healthy brains stayed put, whereas those implanted into damaged brains moved towards the injured area.

The final animal trial was a safety test using monkeys. It was designed to look for cancer, and for signs that the cells had wandered from the brain to other organs such as the heart and the liver, where they might have caused trouble. No such signs were seen.

So the team moved on to people. They transplanted neural stem cells derived from eight patients with open-head injuries back into the patients who had provided the initial tissue and allowed the cells to migrate to the injury sites. (In one case, they used magnetic particles to follow the process.) Then they asked a separate group of specialists to look both at their experimental patients and at a group of people with similar brain injuries but no transplant. The second research group did not know who had and who had not been treated, so as to make the trial “blind”. Using standard behavioural tests, they concluded that the treated patients had lower disability scores.

As Dr Zhu stresses, this is a mere pilot study, and it is too early to draw strong conclusions. But if subsequent work confirms his finding, what started as an unfortunate piece of serendipity may lead to a valuable new technique for repairing injured brains.

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The Hwang affair

Handle with care

Nov 30th 2006
From The Economist print edition

Science gets its wrist slapped for publishing a fraudulent stem-cell paper

Get article background

MORE than most activities, scientific publishing depends on trust. Scientists certainly make mistakes, and also seek to present their results in the most favourable light, but the scientific peers of an author who review his work for publication cannot be expected to repeat and verify it, so they have to start from the assumption that any manuscript they receive is telling the truth as the author sees it. In future, however, the wise Russian proverb adopted by Ronald Reagan may come to apply: “trust, but verify”. That, in essence, is the recommendation made this week by a committee of the great and good who have been looking into the unfortunate incident of Hwang Woo-suk and the invented stem-cell data.

Dr Hwang provoked a flurry of excitement a year ago when he published a paper in *Science* that claimed to have cloned human embryos from embryonic stem cells. However, his claims rapidly unravelled, and he was found to have invented most, if not all, of the data. The result was a lot of egg on a lot of faces, and a determination that nothing similar should happen again.

The scrutinising committee, set up by *Science* itself, recognised that the journal's staff and reviewers had followed the agreed procedures, and had even made extra efforts to clarify the details of what was bound to be a paper of great public interest. But that was not enough to detect a deliberate fraud.

Instead, the committee recommends that papers received by the journal should be divided into uncontroversial and controversial, and the latter gone over with a fine comb of new checks. As they point out, *Science* is one of a handful of journals whose high reputation is such that the rewards of appearing there mean that “some may not adhere to the usual scientific standards in order to achieve publication.”

They generously suggest, too, that other high-profile journals, such as *Nature*, might like to involve themselves in such an upgrade. Whether those journals, which came out of the Hwang scandal looking rather smug for not having got involved, will want to take up that offer remains to be seen.

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Biomimetics

Lateral thinking

Nov 30th 2006
From The Economist print edition

An artificial version of a fishy sense organ passes its first two tests

INVENTORS have long tried to copy nature. Most, though, have looked to the skies and the land, rather than the sea, for inspiration. And even when they have attempted to imitate marine life, they have tended to consider it through mammalian eyes. Submarines, for example, use the familiar human senses of sight and sound to build images of their surroundings.

But that is not the way that fish do it. Although fish can see and hear, they also rely a lot on a series of flow sensors strung along the sides of their bodies. These sensors are known as the lateral-line system. To navigate like a fish, it would help to sense like one. And, in research just published in the *Proceedings of the National Academy of Sciences*, Chang Liu, of the University of Illinois at Urbana-Champaign, and his colleagues describe the first attempts to do so.

A natural lateral-line system consists of about 100 sense cells that run from the gills to the tail on each side of the fish. The cells detect subtle water movements, and from the different times that the individual cells are stimulated by these movements the fish's brain is able to reconstruct an image of what caused them in the first place. Blind a shoaling fish such as a herring and it can still follow its mates. Cut its lateral lines and it rapidly gets lost.

Dr Liu's artificial lateral line was somewhat shorter than a natural one. It consisted of 16 tiny flow sensors, rather than 100. The sensors themselves contained heated filaments and worked by recording how quickly the heat was lost. The faster that water moved past a filament, the quicker the filament lost heat. The output from the sensors was fed into a computer that had been programmed to try to work out what was going on in a simplified version of the way that a fish brain would.

First, the researchers tested whether their system could locate the small pulsing movement caused by a vibrating ball. Not only was the pattern of recordings along the artificial lateral line similar to the pattern recorded from the nerve cells of a real fish, but the computer could also decipher it to follow the source of the pulse as it moved along different paths.

The next test was whether the array could detect vortices left in the wake of escaping prey. The “prey”, in this case, was a cylinder with water flowing around it. This time, the artificial lateral-line system could work out the general direction of the source and identify the pattern of the vortices. Much like weather vanes in whirlwinds, some sensors in a vortex receive water flowing one way while those on the other side find it flows in the opposite direction. Those in the middle are left unruffled, in the eye of the storm.

Having proved his point, Dr Liu is now trying to design sensors that work more like the sense cells in a real lateral line. Instead of heated filaments, these sensors have artificial hairs. The hairs flutter in moving water as flags do in moving air, and the way in which they flutter contains information about the direction and speed of the water moving past them. This principle should allow the team to build more sensitive arrays. Heating filaments in water causes bubbles to form, so turning the power up too much stops them working. Hair sensors do not suffer from the same upper limit.

Artificial lateral lines would have many applications. The most obvious would be in submarines, both manned and unmanned. In the case of military submarines they would have the advantage over sonar of being passive. Sending out a ping is a dead giveaway—literally so, in time of war. And merely listening for sound cannot detect stationary threats. A lateral-line system could. The vortices thrown off by water moving past even a stationary object would be visible to it.

Dr Liu also speculates about using lateral lines to detect air-movements. That could lead to some far less

obvious applications, such as a lateral line-enabled iPod that automatically pumps up the volume in response to the onrushing air of an underground train or similar big, noisy object. That would, indeed, be an inventive brush with nature.

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Monitoring the environment

The pulse of the planet

Nov 30th 2006
From The Economist print edition

A new source of data about the global environment

FINDING useful environmental data on the world wide web is as hard as obtaining anything else from it. What you are looking for may exist; locating it is another matter. And if you want a set of compatible results from different sources, forget it. Navigating the myriad providers of ocean temperatures, wind speeds, rates of deforestation and so on is well nigh impossible. The information comes from different organisations, is stored in diverse formats and may well be out of date.

That is a pity, for a one-stop shop of important environmental data would be useful to policymakers, businessmen and researchers. So an intergovernmental organisation called the Group on Earth Observations (GEO) has designed one.

The result, GEONETCast, was unveiled this week at a meeting held by GEO in Bonn. It combines a wide variety of freshly collected data about the planet and broadcasts them over a network of satellites to anyone who wants to use them, at no charge. This satellite network—run by a consortium of the European Organisation for the Exploitation of Satellites, the World Meteorological Organisation and the governments of America and China—also enables different sets of data to be combined in novel ways. So, just as the internet is a “network of networks”, GEONETCast aims to be a “system of systems” that includes data on agriculture, forestry, air and water quality, and ocean conditions.

Three GEONETCast centres around the world—in America, Europe and China—receive these environmental data from the outfits that collect them. They then send the data to satellites which, in turn, broadcast them back to Earth just as they would a television channel. This makes the data accessible even in places that lack reliable links to the internet. All you need to do is point a dish at the nearest satellite.

A regional version of GEONETCast is already operating in North America, Europe and Africa. A system covering Asia is poised go live in December, and a fully global version, including South America, should be working within a year. The early versions are being put to a variety of uses. South Africa, for example, employs the local network to look at vegetation cover across the country. That helps the government with agricultural-planning decisions and drought monitoring. It even allows it to forecast outbreaks of insect-borne diseases such as malaria.

The system has commercial uses, too. Insurance companies could employ it to look for environmental trends that will help them understand the risks they face in unfamiliar places, and stockmarket analysts will be able to factor environmental conditions into their assessments of how particular companies will perform. Such globalised environmental data will surely find a growing global market.

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Dante's Inferno

Down among the sinners

Nov 30th 2006
From The Economist print edition

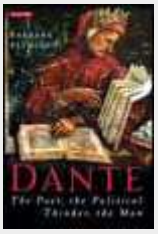
Dante's voice, after 700 years, still speaks to us directly

Dante's Inferno: A Verse Translation
By Sean O'Brien

Picador; 247 pages; £15

Buy it at
Amazon.com
Amazon.co.uk

Dante: The Poet, the Political Thinker, the Man
By Barbara Reynolds



Shoemaker & Hoard; 458 pages; $35.
I.B.Tauris; £20

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Corbis

TWO literary colossi, one English, the other Italian, bestride the map of Europe: William Shakespeare and Dante Alighieri. Chronologically, Dante is the more remote; he died of malaria in 1321 almost 250 years before Shakespeare was born. Yet Dante's greatest work, a long poem in three parts called “Commedia” or “The Divine Comedy”, lives on as if written the other day, translations into English appearing with clockwork regularity.

This year's version by Sean O'Brien, a poet who grew up in the north of England, is a verse translation of “Inferno”, the first of the three segments into which the epic is divided (the other two are “Purgatory” and “Paradise”). In 2002 Ciaran Carson, a poet born in Belfast, produced a translation of the same segment suffused with the violence of his city's political and religious conflict. In the 1990s, Robert Pinsky, an American poet laureate, wrote a racier and suppler version. And, in the early 19th century, John Keats, an English poet, was absorbed by a Dante that had been translated into English blank verse by the Reverend Henry Francis Cary, an exercise that made Dante sound a bit like a playwright in Shakespeare's time.

So it goes on. Poets and other writers continue to re-cast Dante in their chosen image. Why do we refuse to let him go?

Here is the story, in brief. A lonely pilgrim—it is Dante himself—strays into a dark wood, and is guided by the Roman poet Virgil down into Hell to contemplate the harrowing fate of the damned. He is then led up through Purgatory, and, in the final poem, to Paradise, where he meets a transfigured vision of Beatrice, the girl he had loved in Florence as a young man. The epic ends with a vision of the glory of God.

As a judicious new biography by Barbara Reynolds explains, Dante may have seen something of his own life in that of his howling sinners, bound eternally to a stake in a stinking Inferno. It was his fate as a man, and the ferocity of his response to that fate, which gives such enduring energy to his verse. Falling foul of vicious political factionalism, Dante was sent into exile from his beloved Florence in his mid-30s. He never returned.

His great work, written in exile, is a dramatisation of his own fate, an extended attack upon his enemies—and, incidentally, the first great work to be written in his native Tuscan. He was passionate, throughout his life, about the need to create a vernacular written language that would throw off the shackles of Latin. In “The Divine Comedy” he does so, single-handedly forging a tool of expression that became the literary language of Italy.

Dante's vernacular remains an exciting language for poets to engage with because it still feels, linguistically, within our reach. Read the first three lines of the opening stanza, and see that his chosen words are even closer to modern Italian than Shakespeare's words are to modern English.

> *Nel mezzo del cammin di nostra vita*
> *mi ritrovai per una selva oscura*
> *che la diritta via era smarrita.*
> (Once, halfway through the journey of our life,
> I found myself inside a shadowy wood,
> Because the proper road had disappeared.)
> Translated by Sean O'Brien

It is this immediacy of language that helps to bring Dante's medieval world, for all its complex and often baffling symbolism, closer to us than we could have hoped. And Mr O'Brien's “Inferno”, at its best, has a plain, urgent readability, combined with a muscular forcefulness.

> We made a wide arc as we walked around
> The lake between the dry land and the swamp,
> Our eyes transfixed by dead men gobbling mud…
> (Canto VII, lines 127-129)

One of the hardest things to do with Dante is to render his often convoluted theological and philosophical arguments into an English which maintains a sustained readable flow. Mr O'Brien generally does so, matching clarity with intricacy. Where he has failed is in his rhyme scheme. Dante's is complicated: ABA, BCB, CDC, DED and so on. By knotting the verse together, like the design on a Celtic cross, the rhyme scheme compels the poem forward from stanza to stanza. Mr O'Brien abandons it, without explanation.

To match the rhyme scheme is very difficult—though some have tried. For instance, the verses that Ms Reynolds quotes in her biography follow the original, but the translation often feels awkward. It is by Dorothy L. Sayers, a celebrated crime writer, and was first published in 1949 (the Sayers “Inferno”, re-titled “The Descent into Hell” was re-published this year in the Penguin Epics series at $8.95 and £4.99. Accessibly cheap, but it has been surpassed by other translations).

Dante speaks to us in an impassioned human voice that is often aggrieved and vengeful. He wanders through a mysterious world of arcane theology. But many of the monsters who wallow in the depths of his imaginative creation are ones we recognise. They are like us. Which may be why we still cleave to his great poem.

Dante's Inferno: A Verse Translation.
By Sean O'Brien.
Picador; 247 pages; £15

Dante: The Poet, the Political Thinker, the Man.
By Barbara Reynolds.
Shoemaker & Hoard; 458 pages; $35.
I.B.Tauris; £20

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About sponsorship

The Enlightenment

Banishing the dark

Nov 30th 2006
From The Economist print edition

THE Enlightenment needs rescuing, or so thinks Jonathan Israel, the pre-eminent historian of 17th-century Holland. In 2001 he published “Radical Enlightenment”. He now offers a second volume with a third to come. This trio will be the first comprehensive history of the Enlightenment for decades—and Mr Israel's groundbreaking interpretation looks set to establish itself as the one to beat.

The period was once thought of as a glorious chapter in the history of mankind, a time when the forces of light (science, progress and tolerance) triumphed over the forces of darkness (superstition and prejudice). Today, the Enlightenment tends to be dismissed. Post-modernists attack it for being biased, self-deluded and ultimately responsible for the worst in Western civilisation. Post-colonialists accuse it of being Eurocentric, an apology for imperialism. Nationalist historians reject the idea of a coherent universal movement, preferring to talk about the English, French, even Icelandic Enlightenments.

Mr Israel has set himself the task of rebutting these critics and re-establishing the period as the defining episode in the emancipation of man. His arguments are convincing. He contends that there were two Enlightenments, one Radical, the other Moderate. The Radicals, inspired by Spinoza, were materialists, atheists and egalitarians. The Moderates, who followed Locke and Newton, were conservative and more at home than the Radicals in the hierarchical and deeply religious world of 18th-century Europe. They advocated only a partial Enlightenment.

Enlightenment Contested: Philosophy, Modernity, and the Emancipation of Man 1670-1752
By Jonathan I. Israel

Oxford University Press; 1008 pages; $55 and £30

Buy it at
Amazon.com
Amazon.co.uk

In Mr Israel's opinion, the Radicals offered the only true Enlightenment, giving us democracy, equality, individual liberty and secular morality. The Moderates, on the other hand, have left an ambiguous and, in the end, harmful legacy.

While promoting tolerance, they remained uncomfortable with the idea of universal equality. While advancing reason, they failed to divorce morality from religion and tried to rationalise faith. Mr Israel argues that for as long as historians treat the two wings of the Enlightenment as a single movement, they have misunderstood the phenomenon. Worst still, they supply today's critics with the evidence they need to blacken the movement.

This re-evaluation makes for an unfamiliar picture of the Enlightenment and its torchbearers. According to Mr Israel, “enlightened values” were born not in England but in Holland, and he re-casts men such as Locke, Voltaire and even Hume, once thought of as champions of the party of light, as apologists for colonialism and enemies of equality. The author's stupendous research and grasp of the sources are such that few will contest his core argument that the Enlightenment was a coherent, Europe-wide phenomenon, intellectual in origin, which represented a profound shift in the way that men thought about themselves and the world around them.

Mr Israel would like his book to be studied beyond academia. In an ideal world everyone would be reading it. It is a shame, then, that so few will. All too short on the celebrated wit and style of the Enlightenment's first polemicists, the book is long-winded and repetitive, the arguments circuitous and sometimes hard to follow, not least because of Proustian sentences up to 160 words long. If only Mr Israel had taken Diderot's advice, which he quotes, to heart: “Obscure authors write only for a few initiates when it would have cost them only a month of toil to render their books clear and comprehensible to all, a month sparing a thousand able minds three arduous years of study.”

Enlightenment Contested: Philosophy, Modernity, and the Emancipation of Man 1670-1752.
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Oxford University Press; 1008 pages; $55 and £30

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About sponsorship

Bombing Germany

Bad, but was it wicked too?

Nov 30th 2006
From The Economist print edition

BOMBING German cities into a wasteland was terrible: anyone reading Jörg Friedrich's book, now published for the first time in English, will be in no doubt of the cultural destruction and human suffering that it caused. For many Germans, the experience of reading the unvarnished awfulness of their own, their parents' or grandparents' wartime experiences was cathartic. The translation will fill a gap in contemporary understanding in the English-speaking world of what happened in the air in the second world war. Mr Friedrich deserves credit for both his diligence and his descriptive powers.

For all that, the book is flawed. Many bad things happen in wartime and countries that start wars often experience the worst of them. Its implicit thesis is that the allied bombing campaign was a vindictive and unprovoked attack on a country that itself adhered scrupulously to the rules of war. That is not something a reputable historian would argue. The author's outrage, and the sarcastic and melodramatic prose that this fuels, dims any understanding of the context in which Winston Churchill and his air chiefs decided that the air onslaught on German cities was the best (or least bad) course of action, and stuck to this even when the cost, to both bombers and bombed, became increasingly awful.

With the benefit of hindsight, bombing smashed neither morale nor war production. But wartime leaders do not have the benefit of hindsight. The bombing proved dreadfully mistaken. But had it worked, it would have ended the war more quickly. It was not wicked or without reason.

Mr Friedrich seems to assume that the allied commanders always knew that they would win the war, and decided to accelerate victory for their own brutal reasons. Yet the truth is that the allies were not at all sure they would win, even once Stalin's huge army had begun to march westwards. Hitler's propaganda machine was boasting about new secret weapons which would change the course of the war. That proved to be vainglory. But there was no way of knowing this until the very end—and until that time came, it was vital to defeat Hitler as completely and as quickly as possible.

There are other weaknesses too. The book is badly translated, to the point that readers who do not know German will find some passages baffling. Worse, Mr Friedrich's desire to puncture Anglo-American self-satisfaction comes perilously close to suggesting that the Germans were right to defend Nazism, and the allies were wrong to attack it.

The Fire: The Bombing of Germany, 1940-45.
By Jörg Friedrich. Translated by Allison Brown.
Columbia University Press; 532 pages; $34.95. To be published in Britain by Columbia in January

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About sponsorship

Saudi Arabia

Islam and the princes

Nov 30th 2006
From The Economist print edition

WHEN King Fahd of Saudi Arabia invited an American army to defend his country in 1990, after Iraq had invaded Kuwait, some said the kingdom had a new national anthem: “Onward, Christian Soldiers”. Saudi Islamists were not amused. Fahd's fateful decision unleashed a stream of Islamist dissent which has flowed to this day.

The nature of that dissent is explored in rich detail by Madawi Al-Rasheed, a Saudi professor at London University. She sets out to demolish the cliché that Saudi Arabia is a religious state. On the contrary, she argues, an essentially secular polity has co-opted a religious elite which gives it a spurious Islamic legitimacy. In the alliance of *umara* and *ulama* (princes and scholars), the princes have the upper hand while the subservient scholars are left to police social morality.

For a while, it worked. But when half a million American troops arrived in 1990, the *ulama* split, and have remained split. The old religious establishment remained loyal to the House of Saud. But a new generation of Islamists rebelled, denouncing the princes for being in bed with America, and the scholars for being in bed with the princes. The movement known as the *sahwa*, or awakening, was led by two popular sheikhs, Salman al-Awdah and Safar al-Hawali. Their campaign of protests and petitions led to five years' imprisonment.

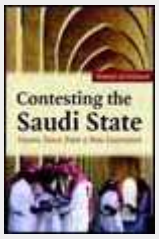
The author's theme is that Wahhabism—that odd, puritanical version of Sunni Islam which is the kingdom's official creed—is not one thing. Under the pressures of modernity, war and authoritarian rule, it has fragmented. The *sahwi* school has attracted many young Saudis with its blend of Wahhabism and political activism—though, since their release, the two sheikhs have been partly co-opted by the state, denting their street credibility.

Since September 11th 2001, Islamist dissent has turned violent, and since 2003 violence has threatened the Saudi realm itself. The ruling family has tried to pass the buck, dissociating itself and Wahhabism from al-Qaeda's global *jihad*, which it blames on Egyptian influences. Ms Rasheed will have none of that. The Saudi part of the *jihad* is home-grown, and thus all the harder to uproot. She has vivid examples of how the internet has opened up the debate about religion and politics. Some are grim (the video of the bombing of a residential compound is “a performance, celebrating heroes in a land where there are none”); others amusing, such as a jihadist campaign against obesity.

Few figures are as loathed by the Islamists as the liberal princes; in particular Prince Bandar, the shrewd, worldly ex-fighter pilot who was for over 20 years his country's ambassador in Washington. Remarkably, he became a successful one-man lobby in a pro-Israeli city. His trick was to identify his country's interests with America's, both as an oil supplier and as a cold war ally ever ready with petrodollars for the anti-communist cause.

Besides, Americans couldn't help liking the “un-Saudi Saudi” who smoked big cigars and was an ardent fan of the Dallas Cowboys. For George Bush senior, he became one of the family. The Bandar story is remarkable even in this rather pedestrian account by William Simpson, an old RAF chum. If the book is to be believed, Bandar's role in clinching arms deals, putting out Arab fires and pursuing peace was even

Contesting the Saudi State: Islamic Voices from a New Generation
By Madawi Al-Rasheed



Cambridge University Press; 332 pages; $30 and £19.99

Buy it at
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The Prince: The Secret Story of the World's Most Intriguing Royal, Prince Bandar bin Sultan
By William Simpson

Regan; 496 pages; $32.50

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more central, and more Machiavellian, than the world had realised.

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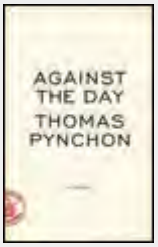
New fiction

Danger: mad professor at work

Nov 30th 2006
From The Economist print edition

NEARLY ten years after he wrote his previous book, “Mason & Dixon”, and more than 30 years since he wrote his best one, “Gravity's Rainbow”, Thomas Pynchon, America's second-most publicity-shy novelist after J.D. Salinger, has written another one. Is it any good? Baffling, yes. Clever and inventive in a cackling, manic, mad-professor kind of way, yes. Intermittently warmed by paragraph-long sunbeams of iridescent prose-poetry, yes. Rambling, pompous and often completely incomprehensible—yes to all that too.

Against the Day
By Thomas Pynchon



Penguin Press; 1085 pages; $35.
Jonathan Cape; £20

Buy it at
Amazon.com
Amazon.co.uk

Mr Pynchon is fascinated by big issues, usually of a scientific nature, such as time and space. One way or another, “Against the Day” involves a lot of both. Its characters—cowpokes, anarchists, plutocrats, private eyes, coked-up undergraduates—discourse learnedly on alchemy, electromagnetism, the existence of a fourth dimension and the theories of Nikola Tesla. The book itself gives rise to temporal and spatial issues of a more immediate kind. It takes weeks to read, weighs as much as a Sunday roast and might do real harm if thrown from a moving vehicle or hurled (as impatient readers may wish to do around the 700-page mark) willy-nilly from an upper-storey window.

There is no plot as such and what story there is resists any kind of summary. Mr Pynchon's blurb on Amazon.com is as good as any. “Spanning the period between the Chicago World's Fair of 1893 and the years just after World War I,” it begins, “[the book] moves from the labour troubles in Colorado to turn-of-the-century New York, to London and Göttingen, Venice and Vienna, the Balkans, Central Asia, Siberia at the time of the mysterious Tunguska Event, Mexico during the Revolution, postwar Paris, silent-era Hollywood and one or two places not strictly speaking on the map at all.”

This blurb created a bit of a stir. At first Penguin, the publisher, denied any knowledge of it. Then it was removed from the website. Then it was reinstated, with the tacit acknowledgment that it had been written by Mr Pynchon himself. The excitement was almost too much for his fans to bear. It is not, of course, publicly known whether the great man even owns a computer (something about his name, redolent as it is of New England Puritan austerity and tapered hats with buckles, suggests not); yet it is hard to imagine a more internet-friendly novelist.

His dense, allusive, technology-obsessed and excitedly paranoid fiction, together with his no less artful sideline in paparazzi-dodging and journalist-baiting, make him a college-educated, Java-speaking web-geek's dream. There is already talk of a Wikipedia-style website devoted to teasing out the ambiguities, hidden meanings and arcane beauties of “Against the Day”. Mr Pynchon's books have invariably been described as “encyclopedic”; it now seems that it is only a matter of time before they get turned into one.

Against the Day.
By Thomas Pynchon.
Penguin Press; 1085 pages; $35.
Jonathan Cape; £20

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About sponsorship

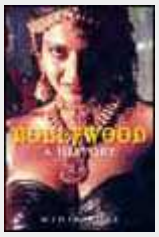
Indian cinema

Let them come to Bombay

Nov 30th 2006
From The Economist print edition

Indian film-makers don't need to be patronised by Hollywood

Bollywood: A History
By Mihir Bose



Tempus; 380 pages; £20

Buy it at
Amazon.co.uk

Lovers in Manhattan

“CROWDED houses nightly”, crows an old advertisement for “Pundalik”, the first result of an Indian's use of film to tell a story. “Almost half the Bombay Hindu population saw it last week and we want the other half to do so before a change of programme takes place!” Alas, in 1912 so little of the Bombay population saw “Pundalik” that the producers lost their shirts and quit the business. The ad survives, but not a frame of the celluloid.

Mihir Bose, a London-based journalist with a childhood lived in Bombay (now Mumbai) and an enormous love and knowledge of the city's cinematic output, has put together a narrative history of India's century-long affair with the movies which in many ways resembles the subject itself: breathless, improbable, bigger-than-big and unafraid to dream. But the term “Bollywood”, a portmanteau joining of Bombay and Hollywood that grew popular in the West during the 1990s, has never been of much use to the men and women who churn out the product.

For a start, Bombay's film industry predates California's. Worse, the term tends to be pejorative and is certainly murky. It refers most properly these days to the popular, Hindi-language, song-and-dance extravaganzas produced by studios based in Mumbai. In Mr Bose's colourful story, it sprawls to include nearly all of India's popular cinema. The country as a whole releases more than 1,000 films a year, exceeding America's turnout.

The history of the Indian film industry is rarely coherent and often barely plausible. Mr Bose repays his reader's attention by stuffing his book to bursting with outrageous characters, humour and pathos. In the process he manages, accidentally it would seem, to spin a good yarn through the story of India's turbulent 20th century.

The sad tale of “Pundalik” is but a footnote, which testifies to the immense difficulty of writing this history authoritatively. Well into the post-independence period, groundbreaking talkies were lost to warehouse fires; major releases were financed entirely by “black money” from the underworld; and everybody from stars to screenwriters seemed to be sleeping with one another, marrying, remarrying, committing suicide and forgiving everything to remake the last big hit.

Sorting through the gossip of bigamies and blood feuds can be fun, if a bit maddening. The technical challenges overcome by India's film pioneers inspire awe: for a time, movies were shot in different languages cut-for-cut, to increase the audience (“Hindi take! Cut! Bengali take!...”) and an early rival to Bombay, its country cousin Kolhapur, played host to studios even before it had electricity (abundant daylight was of the essence).

For such riches, Mr Bose's book does not disappoint. It does however fall prey to some sloppiness and exaggeration. Nearly every page is plagued by typographical and sometimes factual errors, which often distract from the point. By calling entry into the mainstream Western market its “final frontier” of success, Mr Bose makes at once too much and too little of Hindi cinema's true ambition. India's popular films are reaching abroad as never before, thanks in large to expatriate South Asians who make them box-office hits in profitable Western markets. But the concerns remain Indian.

Two of the biggest releases of the past year reach in opposite directions. “Kabhi Alvida Naa Kehna”, or “KANK”, unleashes Bollywood conventions in a fantasyland vision of Manhattan, representing the aspirations and anxieties of an internationally oriented middle class. The wildly funny “Lage Raho Munna Bhai” by contrast, applauded by India's current Congress-led government, inverts some of the same conventions to tell a tale of old-time patriotism through the travails of a good-hearted gangster. The successful young director of KANK was asked by a fan at the Toronto film festival when he expects his career to bring him to Hollywood. “Never! Let them come to Bombay!” said he.

Bollywood: A History.
By Mihir Bose.
Tempus; 380 pages; £20

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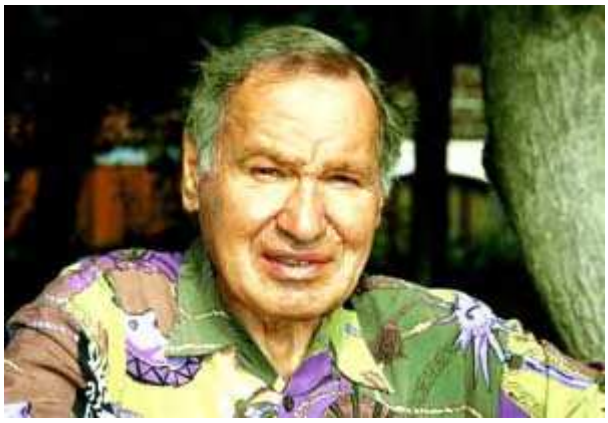
About sponsorship

Peter Roberts

Nov 30th 2006
From The Economist print edition

Peter Roberts, a campaigner for animal welfare, died on November 15th, aged 82



WHAT commonplace activity that most people never think to condemn will one day be seen as a profoundly shameful crime deserving of nothing but moral outrage? Those are the terms in which Tony Blair was talking this week about the slave trade, and it would be an incurious soul who never thought to ask whether future generations will not similarly come to condemn some practice that is today widely accepted. Some may speculate that the offensive activity will turn out to be waging wars, practising abortion or driving 4X4s. Peter Roberts, however, would surely have suggested 21st-century man's treatment of farm animals. He might even have cited meat-eating.

Until the age of about 40, Mr Roberts led a fairly conventional life. The son of a Staffordshire doctor, he served in Burma and Malaya at the end of the second world war, attended an agricultural college and went on to become a dairy farmer. Farming was changing, though. After years of austerity, the British wanted more, but not more expensive, food. At the same time intensive methods of production were being introduced from America. That meant broiler chickens that spent their lives confined in tiny cages, sows and calves reared in crates that were little more than “premature coffins”. Mr Roberts and his wife Anna grew ever more appalled.

So did others. In 1964 a book by Ruth Harrison called “Animal Machines” graphically alerted the British to a form of farming in which animals were kept “purely for their ability to convert food into flesh”. It was followed by a government inquiry and by legislation. Yet veal crates and battery cages remained legal and, when Mr Roberts approached various animal-welfare organisations, they refused to campaign to have them banned.

So Mr Roberts did so instead. In 1967 he founded Compassion in World Farming, which he was to direct until his retirement in 1991. Its most celebrated act was to bring a private prosecution against a priory of Norbertine monks who kept 650 veal calves. “It may be argued that God blessed the calves, giving them four legs and the good earth to walk upon,” said Mr Roberts, “but the wooden crates that imprison them now do not permit the calves to walk, nor exercise, nor even so much as to turn round.” The monks won the case, but Mr Roberts the argument, and by 1990 the British government had banned veal crates. They will be banned throughout the European Union next month.

The EU has yielded to Mr Roberts in another significant way, too. Until the 1990s, it regarded farm animals as no more than “agricultural products”. Mr Roberts believed the best way to secure better treatment for them would be to have them reclassified as “sentient beings”, a change that was eventually enshrined in a protocol to the 1997 treaty of Amsterdam.

Compassion in World Farming's other victories have included an end to EU subsidies for the export of live

cattle, improvements in the slaughterhouses of Poland and Greece, and greater efforts by big supermarkets to ensure that their eggs, meat and other animal products have been produced humanely. All these were achieved by force of argument, not by violence or threats. Mr Roberts, though he became a vegetarian, never took to freelance animal liberation. He believed in changing laws, not breaking them.

One man's meat, another's best friend

He also tried to change attitudes and habits, especially that of eating meat. Compassion in World Farming says that in the past 40 years annual meat consumption per person has risen from 56kg (123lb) to 89 in Europe, and from 89kg to 124 in America. In China it has risen from 4kg to 54. Yet the conversion of grass or grain to meat is nutritionally inefficient: it takes 10kg of feed to produce 1kg of beef.

And this leaves aside the cruelty of much production. Across the world over 50 billion farm animals are killed each year, nearly 100,000 a minute. Even in countries that consider themselves humane, animals can be treated as little more than objects. About 4m live sheep are each year transported thousands of miles by sea from Australia to the Middle East, where Islam dictates they cannot be stunned before having their throats cut. In 2003 the *Cormo Express*, carrying 58,000 sheep, a few of which were said to be infected, was rejected by Saudi Arabia. By the time a country (Eritrea) was found that would accept the sheep, they had spent over two months at sea in temperatures up to 40°C (104°F), and almost 5,700 of them had died. Two years earlier Britain had almost insouciantly culled about 6m cows, sheep and pigs during an outbreak of foot-and-mouth disease. Bird flu now brings the prospect of the wholesale slaughter not just of poultry but of wild birds too.

Compassion in World Farming today leads a coalition of 32 like-minded groups in Europe and has links to many more elsewhere. Philosophers such as Peter Singer have ensured that animal rights are taken seriously by academics, and authors such as J.M. Coetzee write powerfully about animal suffering. Yet politicians in most places are unmoved, and in Mr Roberts's own country are galvanised only if the animals concerned are either furry, like seals, or heroes of the class war, like foxes. Mr Roberts's compassion still has far to go.

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Overview

Nov 30th 2006
From The Economist print edition

The **dollar fell**, breaching the threshold of $1.30 to the euro. It slid to its weakest rate against Europe's single currency since March 2005, and its weakest against the British pound since December 2004. However, on a trade-weighted basis, the dollar was no cheaper than in the spring.

America's currency was not helped by discouraging reports on its housing market. Sales of newly-built **homes** fell by 3.2% in October, according to the Census Bureau, leaving them more than 25% below their level in October 2005. Although sales of already-existing homes rose by 0.5% in October, according to the National Association of Realtors, the median price was flat compared with the month before, and 3.5% below its level a year earlier.

Consumer confidence fell for the second month in a row in America, according to the Conference Board's November survey. The omens for investment do not look good either: new orders for **capital goods**, excluding defence and aircraft orders, fell by 5.1% in October.

At least last quarter looks brighter than it did. Revised figures suggest that **America's GDP** grew at an annual pace of 2.2% in the three months to September, not 1.6% as previously estimated. Corporate profits (adjusted for declines in inventories and depreciation of capital) rose by 30.9% in the year to the third quarter.

New figures show that **Germany's** slowdown in the third quarter (its GDP grew by only 0.6%, after a 1.1% gain in the previous three months) was due to a fall in the stock of inventories, which will need to be rebuilt soon. The stock-clearing obscured a 0.7% gain in private consumption, the biggest quarterly increase in almost two years.

The fourth quarter also looks encouraging for **Germany**. Business was brisk in November, according to the Ifo business-climate index, which equalled its highest reading for over 15 years. Manufacturers and wholesalers were particularly perky, though the mood of retailers soured a little.

The broad money supply in the **euro area**, as measured by M3, increased by 8.5% in the year to October 2006.

Japan's industrial production grew by 1.6% in October, the first rise in two months, leaving output 7.4% higher than a year earlier.

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Output, demand and jobs

Nov 30th 2006
From The Economist print edition

% change on year ago

	GDP latest		GDP qtr*	The Economist poll GDP forecasts 2006	2007	Industrial production latest		Retail sales (volume) latest		Unemployment % rate latest		year ago
Australia	+ 1.9	Q2	+ 1.3	+ 2.7	+ 3.2	– 3.0	Q2	+ 3.2	Q3	4.6	Oct	5.2
Austria	+ 3.3	Q3	+ 3.6	+ 2.8	+ 2.1	+ 5.9	Sep	+ 1.8	Aug	4.7	Oct	5.2
Belgium	+ 3.1	Q3	+ 2.4	+ 2.7	+ 1.9	+ 1.8	Sep	nil	Aug	13.0	Sep†	13.5
Britain	+ 2.7	Q3	+ 2.7	+ 2.6	+ 2.4	+ 0.4	Sep	+ 3.9	Oct	5.6	Sep‡	4.7
Canada	+ 2.9	Q2	+ 2.0	+ 2.8	+ 2.5	– 0.4	Aug	+ 6.0	Aug	6.2	Oct	6.6
Denmark	+ 3.8	Q3	+ 2.5	+ 3.1	+ 2.3	– 0.7	Sep	+ 3.3	Sep	4.2	Sep	5.5
France	+ 1.9	Q3	nil	+ 2.3	+ 2.0	– 0.7	Sep	+ 1.7	Sep	8.8	Oct	9.7
Germany	+ 2.8	Q3	+ 2.6	+ 2.4	+ 1.4	+ 6.3	Sep	– 0.8	Oct	10.2	Nov§	11.5
Italy	+ 1.7	Q3	+ 1.3	+ 1.7	+ 1.2	+ 1.3	Sep	+ 0.1	Aug	7.0	Q2	7.8
Japan	+ 2.7	Q3	+ 2.0	+ 2.7	+ 2.1	+ 7.4	Oct	+ 0.3	Aug	4.2	Sep	4.3
Netherlands	+ 2.6	Q3	+ 2.6	+ 2.7	+ 2.2	+ 1.2	Sep	+ 3.5	Jul	5.5	Oct††	6.5
Spain	+ 3.8	Q3	+ 3.6	+ 3.5	+ 2.8	+ 0.9	Sep	+ 3.8	Sep	7.8	Sep	8.6
Sweden	+ 5.1	Q2	+ 5.4	+ 4.4	+ 3.1	+ 6.0	Sep	+ 9.3	Oct	4.6	Oct†	5.6
Switzerland	+ 3.2	Q2	+ 3.0	+ 2.9	+ 2.1	+ 4.3	Q2	+ 2.3	Sep	3.1	Oct†	3.7
United States	+ 3.0	Q3	+ 2.2	+ 3.3	+ 2.3	+ 4.9	Oct	+ 6.1	Sep	4.4	Oct	4.9
Euro area	+ 2.6	Q3	+ 2.0	+ 2.6	+ 1.9	+ 3.3	Sep	+ 1.4	Sep	7.8	Sep	8.5
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Finland	+ 6.6	Q2	+ 7.6	na	na	+ 1.2	Oct	+ 7.1	Sep	7.9	Oct	8.1
Greece	+ 4.3	Q3	na	na	na	– 2.6	Sep	+10.1	Aug	8.8	Q2	9.6
Iceland	+ 2.8	Q2	na	na	na	na		na		1.0	Sep†	1.4
Ireland	+ 5.0	Q2	+ 3.6	na	na	+ 6.0	Sep	+ 3.9	Sep	4.4	Oct	4.4
Luxembourg	+ 5.4	Q2	na	na	na	– 1.4	Jul	+ 1.7	Sep	4.4	Sep	4.3
New Zealand	+ 1.6	Q2	+ 1.7	na	na	+ 0.5	Q2	+ 1.0	Q3	3.8	Q3	3.7
Norway	– 0.5	Q2	+ 1.9	na	na	– 4.7	Sep	+ 8.3	Oct	3.3	Sep**	4.8
Portugal	+ 0.9	Q2	+ 3.8	na	na	+ 1.6	Sep	+ 2.1	Sep	7.4	Q3†	7.7

*% change on previous quarter at an annual rate. †Not seasonally adjusted. ‡Jul-Sep; claimant count rate 3.0% in Oct. §EU harmonised rate 8.7% in Sep. ††Aug-Oct. **Jul-Sep.

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Prices and wages

Nov 30th 2006
From The Economist print edition

% change on year ago

	Consumer prices			The Economist poll consumer prices forecast		Producer prices			Wages/earnings		
	latest		year ago	2006	2007	latest		year ago	latest		year ago
Australia	+ 3.9	Q3	+ 3.0	+ 3.4	+ 2.7	+ 7.9	Q3	+ 6.2	+ 3.9	Q3	+ 6.0
Austria	+ 1.1	Oct	+ 2.0	+ 1.7	+ 1.7	+ 2.4	Oct	+ 1.3	+ 2.7	Oct	+ 2.3
Belgium	+ 1.5	Nov	+ 2.6	+ 2.2	+ 2.0	+ 6.1	Sep	+ 1.4	+ 2.1	Jul	+ 2.5
Britain	+ 2.4	Oct*	+ 2.3	+ 2.3	+ 2.2	+ 1.7	Oct	+ 2.6	+ 3.9	Sep†	+ 4.1
Canada	+ 0.9	Oct	+ 2.6	+ 2.2	+ 2.1	+ 1.2	Oct	+ 1.6	+ 1.1	Aug	+ 1.8
Denmark	+ 1.5	Oct	+ 2.0	+ 2.0	+ 2.0	+ 2.5	Oct	+ 4.3	+ 3.2	Q2	+ 2.9
France	+ 1.1	Oct	+ 1.8	+ 1.8	+ 1.5	+ 2.4	Oct	+ 3.0	+ 2.9	Q3	+ 3.1
Germany	+ 1.5	Nov	+ 2.3	+ 1.7	+ 2.3	+ 2.9	Oct	+ 2.7	+ 0.6	Sep	+ 1.0
Italy	+ 1.8	Oct	+ 2.2	+ 2.2	+ 1.9	+ 5.4	Sep	+ 3.8	+ 3.3	Oct	+ 3.0
Japan	+ 0.6	Sep	− 0.3	+ 0.3	+ 0.5	+ 2.8	Oct	+ 2.1	+ 1.0	Sep	− 0.1
Netherlands	+ 0.9	Oct	+ 1.6	+ 1.6	+ 1.7	+ 2.8	Sep	+ 5.3	+ 1.9	Oct	+ 0.9
Spain	+ 2.5	Oct	+ 3.5	+ 3.5	+ 2.8	+ 3.4	Oct	+ 4.9	+ 3.1	Q2	+ 3.4
Sweden	+ 1.3	Oct	+ 0.5	+ 1.4	+ 1.8	+ 4.2	Oct	+ 4.1	+ 3.1	Aug	+ 3.3
Switzerland	+ 0.5	Nov	+ 1.0	+ 1.2	+ 1.2	+ 2.3	Oct	+ 1.1	+ 1.0	2005	+ 0.9
United States	+ 1.3	Oct	+ 4.3	+ 3.4	+ 2.3	− 1.6	Oct	+ 5.9	+ 3.9	Oct	+ 3.1
Euro area	+ 1.6	Oct	+ 2.5	+ 2.2	+ 2.1	+ 4.6	Sep	+ 4.4	+ 2.4	Q2	+ 2.5
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*										
Finland	+ 1.8	Oct	+ 0.8	na	na	+ 5.8	Oct	+ 3.3	+ 3.5	Q3	+ 4.0
Greece	+ 2.8	Oct	+ 3.8	na	na	+ 2.3	Oct	+ 6.3	na		na
Iceland	+ 7.3	Nov	+ 4.2	na	na	+12.2	Nov	+ 3.9	+11.0	Oct	+ 6.9
Ireland	+ 3.9	Oct	+ 3.0	na	na	+ 0.1	Oct	+ 0.9	+ 4.1	Q2	+ 3.5
Luxembourg	+ 1.5	Oct	+ 3.1	na	na	+ 9.5	Sep	+ 3.3	+ 0.4	Aug	+ 1.1
New Zealand	+ 3.5	Q3	+ 3.4	na	na	+ 6.9	Q3	+ 6.1	+ 3.2	Q3	+ 3.1
Norway	+ 2.7	Oct	+ 1.8	na	na	+ 5.9	Oct	+10.1	+ 3.8	Q3	+ 2.7
Portugal	+ 2.7	Oct	+ 2.7	na	na	+ 2.6	Oct	+ 4.0	+ 0.8	Sep	− 1.1

*RPI inflation rate 3.7% in Oct. †Jul-Sep.

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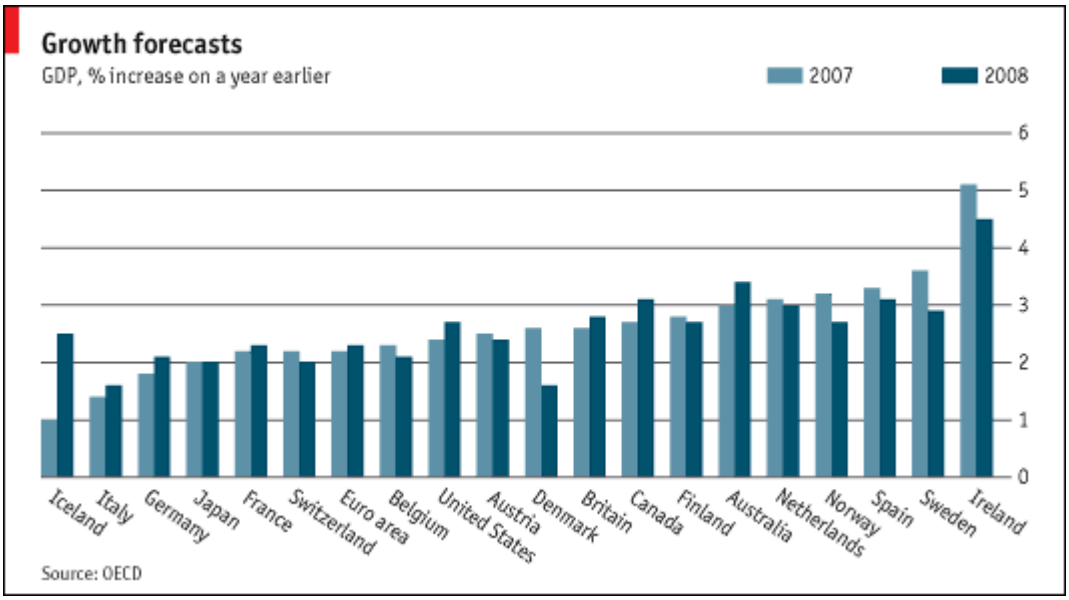
Growth forecasts

Nov 30th 2006
From The Economist print edition

The OECD forecasts that growth in its member countries will slow to an average rate of 2.6% in 2007 and 2008, down from 3.2% this year. America and Japan are expected to see a sharper slowdown than the euro area. Ireland is tipped to remain the fastest-expanding of the rich economies in our chart, with average growth of 4.8% over the two years. At the other extreme, Italy is forecast to grow by a measly average of only 1.5%.



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Money and interest rates

Nov 30th 2006
From The Economist print edition

	Money supply* % change on year ago			Interest rates % p.a. (Nov 29th 2006)					
				3-mth money market		2-year	10-year gov't bonds		corporate
	narrow	broad		latest	year ago	gov't bonds	latest	year ago	bonds
Australia	+10.6	+11.2	Sep	6.37	5.63	5.99	5.55	5.38	6.68
Britain	+ 5.5	+14.1	Oct	5.20	4.58	4.97	4.54	4.19	5.56
Canada	+14.2	+ 8.6	Oct	4.18	3.30	3.90	3.94	4.05	5.14
Denmark	+ 8.2	+ 9.1	Oct	3.78	2.45	3.72	3.66	3.39	5.09
Japan	+ 0.7	+ 0.7	Oct	0.40	0.02	0.83	1.69	1.45	1.84
Sweden	- 0.6	+10.6	Oct	2.89	1.61	3.49	3.57	3.33	3.82
Switzerland	- 2.3	+ 2.4	Oct	1.94	1.01	2.23	2.28	2.13	2.56
United States	- 0.4	+ 4.8	Oct	5.24	4.06	4.71	4.53	4.54	5.43
Euro area†	+ 6.3	+ 8.5	Oct	3.63	2.47	3.69	3.67	3.39	4.31

*Narrow: M1 except Britain notes and coin and Sweden M0, broad: M2 or M3 except Britain M4. †Germany for bonds. Benchmarks: US 30-year 4.60%, Japan No. 283 1.66%. Central bank rates: US fed funds 5.25%, ECB refinancing 3.25%, BOJ overnight call 0.25%, BOE repo 5.0%. Sources: Bank of Canada, Commerzbank, Danske Bank, Global Insight, JPMorgan Chase, Lehman Brothers, Stockholmsbörsen, UBS, Westpac, Thomson Datastream. Rates cannot be construed as banks' offers.

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The Economist commodity price index

Nov 30th 2006
From The Economist print edition

2000=100

	Nov 21st	Nov 28th*	% change on one month	% change on one year
Dollar index				
All items	181.7	185.5	+ 0.7	+ 35.4
Food	151.6	154.3	+ 4.9	+ 27.2
Industrials				
All	220.6	226.0	– 2.8	+ 43.6
Nfa†	134.1	135.0	– 1.4	+ 1.6
Metals	267.8	275.6	– 3.2	+ 61.5
Sterling index				
All items	145.1	144.5	– 1.4	+ 19.4
Euro index				
All items	131.0	130.5	– 2.3	+ 21.1
Yen index				
All items	198.8	200.1	– 0.1	+ 31.6
Gold				
$ per oz	628.50	636.08	+ 5.1	+ 27.5
West Texas Intermediate				
$ per barrel	57.87	60.85	+ 4.0	+ 8.2

*Provisional. †Non-food agriculturals.

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Stockmarkets

Nov 30th 2006
From The Economist print edition

Market indices

	Nov 29th	2006 high	2006 low	% change on one week	% change on record high	% change on Dec 30th 2005 in local currency	% change on Dec 30th 2005 in $ terms
Australia (All Ordinaries)	5,432.5	5,456.7	4,708.8	+ 0.2	– 0.4	+15.4	+23.4
Austria (ATX)	4,098.5	4,344.4	3,324.1	– 1.1	– 5.7	+11.8	+24.6
Belgium (Bel 20)	4,165.4	4,273.8	3,445.1	– 1.3	– 2.5	+17.4	+30.9
Britain (FTSE 100)	6,084.4	6,254.9	5,506.8	– 1.2	– 12.2	+ 8.3	+23.0
Canada (Toronto Composite)	12,668.2	12,668.2	10,904.3	+ 0.9	nil	+12.4	+15.4
Denmark (OMXCB)	403.4	408.1	325.0	– 1.1	– 1.1	+ 9.7	+22.4
France (SBF 250)	3,818.1	3,900.4	3,244.2	– 1.3	– 13.0	+15.7	+29.0
France (CAC 40)	5,381.3	5,511.5	4,615.4	– 1.3	– 22.3	+14.1	+27.3
Germany (DAX)*	6,363.8	6,476.1	5,292.1	– 1.7	– 21.1	+17.7	+31.2
Italy (S&P/MIB)	40,538.0	40,862.0	34,850.0	– 0.8	– 19.1	+13.5	+26.6
Japan (Nikkei 225)	16,076.2	17,563.4	14,218.6	+ 1.0	– 58.7	– 0.2	+ 1.4
Japan (Topix)	1,580.1	1,783.7	1,458.3	+ 1.8	– 45.2	– 4.2	– 2.7
Netherlands (AEX)	482.0	497.5	412.9	– 1.7	– 31.3	+10.4	+23.0
Spain (Madrid SE)	1,533.8	1,564.6	1,156.8	– 2.0	– 2.0	+32.7	+47.9
Sweden (Affarsvarlden Gen)	341.1	350.5	275.2	– 2.1	– 14.8	+16.2	+33.9
Switzerland (Swiss Market)	8,569.9	8,835.6	7,154.9	– 2.4	– 3.0	+13.0	+23.2
United States (DJIA)	12,226.7	12,342.6	10,667.4	– 0.8	– 0.9	+14.1	+14.1
United States (S&P 500)	1,399.5	1,406.1	1,223.7	– 0.5	– 8.4	+12.1	+12.1
United States (NASDAQ Comp)	2,432.2	2,466.0	2,020.4	– 1.4	– 51.8	+10.3	+10.3
Europe (FTSEurofirst 300)†	1,443.4	1,473.8	1,238.7	– 1.5	– 15.3	+13.2	+26.2
Euro area (FTSE Euro 100)†	1,245.4	1,270.0	1,050.0	– 1.6	– 19.7	+14.3	+27.5
World (MSCI)‡	1,450.3	1,450.3	1,243.9	+ 0.1	nil	+15.3	+15.3
World bond market (Citigroup)††	665.9	666.7	612.1	+ 1.0	– 0.1	+ 7.3	+ 7.3

*Total return index. †In euro terms. ‡Morgan Stanley Capital International index includes individual markets listed above plus eight others, in $ terms. ††Citigroup World Government Bond Index, total return, in $ terms.

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Trade, exchange rates and budgets

Nov 30th 2006
From The Economist print edition

	Trade balance*, $bn latest 12 months		Current-account balance $bn latest 12 mths		The Economist poll % of GDP, forecast 2006	2007	Exchange rate trade-weighted† 2000=100 Nov 29th	year ago	Currency units per $ Nov 29th	year ago	per £	per euro	per ¥100	Budget balance % of GDP 2006‡
Australia	− 10.2	Oct	− 41.0	Q2	− 5.6	− 5.2	120.0	118.3	1.27	1.35	2.48	1.68	1.10	+ 2.5
Austria	− 1.2	Sep	+ 9.2	Q2	+ 1.1	+ 1.1	105.8§	104.9	0.76	0.85	1.48	–	0.65	− 1.3
Belgium	+ 16.0	Sep	+ 6.5	Jun	+ 1.8	+ 1.9	107.5§	106.5	0.76	0.85	1.48	–	0.65	nil
Britain	−144.2	Sep	− 64.4	Q2	− 2.6	− 2.8	103.0	98.4	0.51	0.58	–	0.67	0.44	− 3.0
Canada	+ 53.7	Sep	+ 28.9	Q3	+ 1.4	+ 0.9	126.2	124.7	1.14	1.17	2.22	1.50	0.98	+ 0.9
Denmark	+ 7.7	Sep	+ 7.6	Sep	+ 2.0	+ 1.9	106.8	106.0	5.67	6.32	11.0	7.45	4.88	+ 3.4
France	− 34.9	Sep	− 41.5	Sep	− 1.5	− 1.2	108.4§	107.2	0.76	0.85	1.48	–	0.65	− 2.7
Germany	+187.4	Sep	+107.5	Sep	+ 3.6	+ 3.7	110.2§	108.6	0.76	0.85	1.48	–	0.65	− 2.3
Italy	− 26.4	Sep	− 39.1	Sep	− 1.8	− 1.7	108.1§	106.9	0.76	0.85	1.48	–	0.65	− 4.8
Japan	+ 78.4	Sep	+168.1	Sep	+ 3.6	+ 3.6	79.5	81.0	116	120	226	153	–	− 4.6
Netherlands	+ 38.3	Sep	+ 63.2	Q3	+ 6.3	+ 5.7	108.4§	107.3	0.76	0.85	1.48	–	0.65	− 0.4
Spain	−107.4	Sep	− 98.4	Aug	− 8.1	− 7.8	105.9§	105.1	0.76	0.85	1.48	–	0.65	+ 1.4
Sweden	+ 19.3	Oct	+ 26.2	Q3	+ 6.4	+ 5.9	100.4	93.9	6.91	8.08	13.5	9.09	5.95	+ 2.9
Switzerland	+ 9.2	Oct	+ 55.3	Q2	+13.5	+12.9	105.3	106.5	1.21	1.32	2.36	1.59	1.04	+ 0.2
United States	−849.5	Sep	−838.1	Q2	− 6.6	− 6.5	82.6	88.2	–	–	1.95	1.32	0.86	− 2.3
Euro area	− 24.1	Sep	− 35.3	Sep	− 0.4	− 0.1	120.1	115.4	0.76	0.85	1.48	–	0.65	− 2.1
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*													
Finland	+ 11.3	Sep	+ 11.8	Sep	na	na	109.3§	108.0	0.76	0.85	1.48	–	0.65	+ 2.5
Greece	− 40.5	Aug	− 26.8	Sep	na	na	105.0§	104.1	0.76	0.85	1.48	–	0.65	− 2.6
Iceland	− 1.9	Oct	− 3.4	Q2	na	na	86.0**	102.3	68.6	63.1	134	90.2	59.0	+ 4.1
Ireland	+ 37.1	Sep	− 6.0	Q2	na	na	113.7§	112.0	0.76	0.85	1.48	–	0.65	+ 1.0
Luxembourg	− 5.4	Aug	+ 4.2	Q2	na	na	107.5§	106.5	0.76	0.85	1.48	–	0.65	− 1.3
New Zealand	− 4.3	Oct	− 10.2	Q2	na	na	130.8	142.8	1.47	1.42	2.87	1.94	1.27	+ 3.5
Norway	+ 57.7	Oct	+ 56.5	Q2	na	na	106.9	110.2	6.26	6.73	12.2	8.24	5.39	+ 19.3
Portugal	− 22.9	Aug	− 16.8	Sep	na	na	106.0**	105.2	0.76	0.85	1.48	–	0.65	− 4.6

*Merchandise. Australia, Britain, France, Canada, Japan and United States imports fob, exports fob. All others cif/fob. †Bank of England except §IMF, September average. ‡OECD forecast. **IMF, July average.

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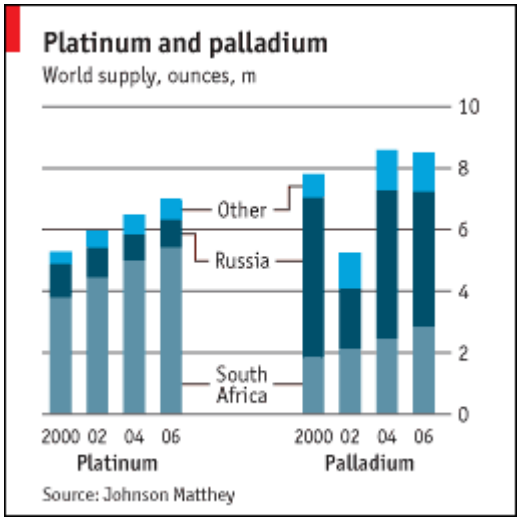
Platinum and palladium

Nov 30th 2006
From The Economist print edition

Platinum production is forecast to fall short of demand again in 2006. Stocks will fall for the eighth year running. Demand for palladium, however, will slip as China purchases less of the metal for jewellery.



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Overview

Nov 30th 2006
From The Economist print edition

South Africa's GDP grew by 4.5% in the year to the third quarter. Second-quarter growth was revised up from 3.6% to 4.3%.

In **South Korea**, industrial production expanded by 4.6% in the year to October. Output had leapt by 16.5% in the year to September.

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Anti-dumping

Nov 30th 2006
From The Economist print edition

Exporters who sell their wares below cost, or for less than they charge at home, are guilty of “dumping”. In the first six months of this year, WTO members launched 87 new investigations of alleged dumping, down from 105 in the first half of 2005. These investigations do not always result in any action. But from January to June, members imposed 71 counter-measures, such as duties on dumped products, to protect their domestic industries.

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Economy

Nov 30th 2006
From The Economist print edition

	% change on year ago						Latest 12 months, $bn				Foreign reserves* $bn, latest	
	GDP		Industrial production		Consumer prices		Trade balance		Current account			
China	+10.4	Q3	+14.7	Oct	+ 1.4	Oct	+155.2	Oct	+160.8	2005	987.9	Sep
Hong Kong	+ 6.8	Q3	+ 5.3	Q2	+ 2.0	Oct	−16.7	Oct	+18.6	Q2	131.2	Oct
India	+ 9.2	Q3	+11.4	Sep	+ 6.8	Sep	−45.0	Oct	−13.2	Q2	160.2	Oct
Indonesia	+ 5.5	Q3	+ 6.2	Aug	+ 6.3	Oct	+37.0	Sep	+ 4.1	Q2	38.4	Oct
Malaysia	+ 5.8	Q3	+ 3.6	Sep	+ 3.1	Oct	+28.6	Sep	+20.0	Q2	79.3	Oct
Pakistan	+ 6.6	2006†	+ 7.5	Aug§	+ 8.1	Oct	−12.8	Sep	− 5.0	Q2	11.0	Oct
Philippines	+ 4.8	Q3	− 8.3	Sep	+ 5.4	Oct	− 3.8	Sep	+ 4.3	Jun	19.4	Oct
Singapore	+ 7.2	Q3	+ 1.5	Oct	+ 0.4	Oct	+35.0	Oct	+39.0	Q3	131.9	Oct
South Korea	+ 4.6	Q3	+ 4.6	Oct	+ 2.1	Oct	+14.9	Oct	+ 6.9	Sep	229.5	Oct
Taiwan	+ 5.0	Q3	+ 1.1	Oct	− 1.2	Oct	+21.7	Oct	+26.3	Q3	261.8	Oct
Thailand	+ 4.9	Q2	+ 5.4	Oct	+ 2.8	Oct	− 0.1	Oct	+ 2.0	Oct	60.0	Sep
Argentina	+ 7.9	Q2	+ 7.3	Oct	+10.5	Oct	+11.6	Oct	+ 7.4	Q2	27.0	Sep
Brazil	+ 1.2	Q2	+ 1.3	Sep	+ 3.3	Oct	+46.5	Oct	+14.0	Oct	78.2	Oct
Chile	+ 2.9	Q3	+ 4.7	Oct	+ 2.1	Oct	+21.2	Oct	+ 2.2	Q2	17.5	Oct
Colombia	+ 6.0	Q2	+14.9	Sep	+ 4.2	Oct	+ 0.6	Aug	− 2.2	Q2	15.0	Oct
Mexico	+ 4.6	Q3	+ 5.0	Sep	+ 4.3	Oct	− 5.8	Oct	− 1.3	Q3	82.4	Sep
Peru	+ 7.4	Sep	+ 9.9	Aug	+ 1.9	Oct	+ 8.0	Sep	+ 1.3	Q2	14.5	Sep
Venezuela	+10.2	Q3	+12.7	Aug	+ 8.7	Oct	+36.8	Q3	+29.7	Q3	27.2	Sep
Egypt	+ 5.9	Q1	+ 4.0	2005†	+11.8	Oct	−11.2	Q1	+ 2.1	Q1	24.0	Oct
Israel	+ 4.8	Q3	+ 6.2	Sep	− 0.2	Oct	− 7.6	Oct	+ 5.8	Q2	27.5	Oct
Saudi Arabia	+ 6.6	2005‡	na		+ 2.2	Aug	+125.6	2005	+90.0	2005	24.9	Sep
South Africa	+ 4.5	Q3	+ 1.9	Sep	+ 5.4	Oct	− 7.6	Sep	−13.3	Q2	22.1	Oct
Czech Republic	+ 6.2	Q2	+ 5.8	Sep	+ 1.3	Oct	+ 1.8	Sep	− 3.8	Q2	30.5	Oct
Hungary	+ 3.6	Q3	+11.8	Sep	+ 6.3	Oct	− 3.1	Sep	− 7.6	Q2	20.7	Oct
Poland	+ 5.8	Q3	+14.6	Oct	+ 1.2	Oct	− 3.8	Sep	− 5.9	Sep	45.2	Oct
Russia	+ 7.4	Q2	+ 5.4	Oct	+ 9.2	Oct	+142.7	Sep	+101.4	Q3	265.0	Oct
Turkey	+ 7.5	Q2	+ 4.0	Sep	+10.0	Oct	−51.4	Sep	−32.6	Sep	58.5	Sep
MORE COUNTRIES	Data for the countries below are not provided in printed editions of *The Economist*											
Estonia	+12.0	Q2	+ 1.8	Sep	+ 3.7	Oct	− 3.0	Aug	− 2.0	Sep	2.4	Sep
Latvia	+10.9	Q2	+ 2.5	Sep	+ 5.6	Oct	− 4.4	Sep	− 3.4	Sep	3.9	Sep
Lithuania	+ 6.3	Q3	na		+ 3.6	Oct	− 4.6	Sep	− 2.8	Sep	4.3	Sep
Slovakia	+ 9.8	Q3	+ 9.7	Sep	+ 3.7	Oct	− 3.3	Sep	− 5.0	Jul	12.6	Sep
Slovenia	+ 4.9	Q2	+ 7.5	Sep	+ 1.5	Oct	− 1.8	Sep	− 0.9	Sep	7.5	Aug

*Excluding gold, except Singapore and China; IMF definition. †Year ending June. ‡Economist Intelligence Unit estimate. §New series.
Sources: National statistics offices, central banks and stock exchanges; Thomson Datastream; Reuters; WM/Reuters; Hong Kong Monetary Authority; Centre for Monitoring Indian Economy; Bank Leumi le-Israel; Standard Bank Group

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Financial markets

Nov 30th 2006
From The Economist print edition

	Currency units			Interest rates	Stockmarkets	% change on		
	per $		per £	short-term	Nov 29th		Dec 30th 2005	
	Nov 29th	year ago	Nov 29th	% a year		one week	in local currency	in $ terms
China	7.83	8.08	15.3	3.50	2,158.4	+0.6	+ 76.8	+ 82.2
Hong Kong	7.78	7.75	15.2	4.10	18,780.9	– 2.4	+ 26.2	+ 25.9
India	44.7	45.9	87.1	6.63	13,616.7	– 0.7	+ 44.9	+ 45.9
Indonesia	9,168	10,030	17,870	9.97	1,713.4	+0.5	+ 47.4	+ 58.2
Malaysia	3.63	3.78	7.07	3.73	1,064.6	+2.0	+ 18.3	+ 23.3
Pakistan	60.8	59.8	119	10.27	10,594.6	– 0.5	+ 10.9	+ 9.0
Philippines	49.7	54.0	97.0	6.19	2,745.6	– 3.8	+ 31.0	+ 39.7
Singapore	1.54	1.69	3.01	3.40	2,826.4	– 0.1	+ 20.4	+ 29.6
South Korea	931	1,034	1,814	4.64	1,422.6	nil	+ 3.1	+ 12.0
Taiwan	32.5	33.5	63.3	1.84	7,474.2	+1.7	+ 14.1	+ 15.4
Thailand	36.0	41.2	70.2	5.25	735.8	+0.9	+ 3.1	+ 17.3
Argentina	3.08	2.97	6.00	10.56	1,961.2	+1.1	+ 27.1	+ 25.0
Brazil	2.18	2.20	4.25	13.68	41,970.0	+0.1	+ 25.5	+ 34.5
Chile	530	515	1,032	5.16	11,667.6	+0.7	+ 26.7	+ 22.5
Colombia	2,301	2,275	4,486	6.70	10,287.6	– 0.6	+ 8.1	+ 7.4
Mexico	11.0	10.6	21.4	7.05	24,776.1	+0.4	+ 39.2	+ 34.6
Peru	3.22	3.41	6.28	4.48	11,395.8	+2.2	+137.3	+152.6
Venezuela	3,455§	2,463§	6,734	10.01	43,515.6	+3.9	+113.4	+ 59.7
Egypt	5.72	5.76	11.15	9.47	57,478.1	– 0.4	+ 3.8	+ 4.1
Israel	4.26	4.66	8.30	5.20	936.8	+0.1	+ 13.2	+ 22.3
Saudi Arabia	3.75	3.75	7.31	5.15	8,324.4	– 4.3	– 50.2	– 50.2
South Africa	7.13	6.46	13.9	8.60	23,691.7	– 0.9	+ 30.9	+ 16.5
Czech Republic	21.3	24.5	41.5	2.61	1,559.5	– 1.0	+ 5.9	+ 22.6
Hungary	196	215	381	8.16	23,174.4	– 0.9	+ 11.5	+ 22.0
Poland	2.90	3.31	5.66	4.20	50,425.4	+1.5	+ 41.6	+ 58.8
Russia	26.3	28.8	51.3	11.00	1,765.2‡	+3.6	+ 43.7	+ 56.8
Turkey	1.47	1.35	2.86	19.51	38,066.9	+0.9	– 4.3	– 11.7
EM (MSCI)*	1.00	1.00	1.95	na	866.5	+0.8	+ 22.7	+ 22.7
EMBI+†	1.00	1.00	1.95	na	402.7	+0.2	+ 9.2	+ 9.2

*Emerging Mkts. †JPMorgan Chase's Emerging Mkts Bond Index Plus. ‡In $ terms. §Trading market value.

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